RADview-PC/TDM

Network Management System for TDM Applications

FCD-M

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FCD–E1/T1/M

Edit Configuration Operations

This section explains the operations that are performed in the Edit Configuration Modes of the FCD–E1/T1/M and FCD-T1/M

1. Introduction

RADview-PC provides a complete solution for monitoring and controlling the FCD. The FCD–M can be used as a rate and interface converter or as an integrating E1/T1 multiplexer for Fractional E1/T1 services. FCD–M is available with either one or two data ports, and with an optional sub-E1/T1 drop and insert port. The data ports rates are selectable for any multiple of 56 or 64 kbps, up to 1984 (E1) or 1536 (T1) kbps. User data of each port is placed into an E1/T1 frame, using only the required number of time slots. Each time slot of the sub-E1/T1 port is placed on the same time slot of the main E1/T1 link. FCD–E1/T1/M is available with or without an internal LTU (Line Termination Unit), allowing direct connection to the E1 network or connection via an external LTU. FCD-T1/M is available with or without an internal CSU, allowing direct connection to the T1 network or connection via an external CSU.

2. Preliminary Hardware Configuration

CONTROL DCE Port Interface Characteristics

Connect the terminal to the CONTROL DCE port supports the following data rates: 9600, 19200, 38400 or 57600 bps. The word format consists of one start bit, 7 or 8 data bits, and one stop bit. Parity can be odd, even or disabled.

To simplify the establishment of communication, the CONTROL DCE port supports the AUTOBAUD function: when this function is enabled, the FCD-E1M system can identify the data rate of the signal received at the CONTROL DCE port.

Preparation of Supervision Terminal

Configure the terminal for the communication parameters used by the CONTROL DCE port, select the full-duplex mode, and turn the terminal echo off. For the preliminary configuration session, always use the default communication parameters.

Connect the terminal RS-232 communication port to the CONTROL DCE port.

Loading of Default Parameters

To load the default parameters, enter the **INIT DB** command.

Selecting the Supervisory Terminal Control Sequences

Select the terminal control sequences for the terminal type in use by entering the command **DEF TERM 'terminal_type'**. **'terminal_type'** stands for one of the following types: VT52, VT100, TV920, FREEDOM100, FREEDOM220.

In case your terminal requires control sequences differing from those used by the terminals listed above, type the command **F** and enter your terminal control sequences.

Configuration for Using Terminals

To prepare the FCD-E1/T1/M system for configuration by means of a supervision terminal, perform the activities described below.

Even in case you will manage the FCD-E1/T1/M system using only Telnet hosts and/or SNMP management stations, first you must use the supervision terminal to configure the supervisory port and the SNMP agent.

CONTROL DCE Port Configuration

Configure the CONTROL DCE port of the FCD-E1/T1/M system by entering the command **DEF SP**. You will see the supervisory port configuration data form. A typical form with the default values is shown below:

```
SPEED  DATA  PARITY  INTERFACE  CTS    DCD_DEL  DSR   ALARM RELAY
9600   8     NO      DCE        =RTS   0_MSEC   ON    NORMAL

POP_ALM    PWD    LOG_OFF    AUXILIARY_DEVICE   ROUTING PROTOCOL
NO         NO     NO         TERMINAL           NONE
```

CONTROL Port Configuration

When connecting through the CONTROL port, configure the CONTROL port using the **DEF NP** command. A typical form with the default values is shown below:

```
SPEED        DATA     PARITY    CALL_OUT_MODE
1200         8        NO        NONE

LOG_OFF      AUXILIARY_DEVICE   ROUTING_PROTOCOL
NO           NMS-SLIP           NONE
```

SNMP Agent Configuration

- Define the FCD-E1A/M system name, using the **DEF NAME** command.
- Define the SNMP agent parameters using the **DEF AGENT** command. The IP address and the subnet mask, as well as the various community names must match those of the IP host. A typical SNMP agent parameters data form is shown below:

```
TELNET_APATHY_TIME
10 MIN
IP_ADDRESS                    XXX.XXX.XXX.XXX
DEFAULT GATEWAY               XXX.XXX.XXX.XXX
SUBNET MASK                   XXX.XXX.XXX.XXX
SNMP READ COMMUNITY           public
SNMP WRITE COMMUNITY          private
SNMP TRAP COMMUNITY           public
```

where X stands for the digits of the current IP addresses.

Configuration of FCD-E1A/M Ports for Telnet and SNMP Access

To use a FCD-E1A/M serial port for Telnet and SNMP access, use the **DEF SP** and/or **DEF NP** commands, as applicable, and select the following parameters:

- Select the appropriate data rate in the **SPEED** field. Do not select **AUTO**.
- Select **NMS-SLIP** or **NMS-PPP** in the **AUXILIARY DEVICE** field.
- Select **PROPRIETY** or **RIP-II** in the **ROUTING PROTOCOL** field. The **RIP-II** selection is needed only when the management traffic must pass through standard routers.

To use the rear panel Ethernet port for Telnet and SNMP access, you need to select only the routing protocol.

At this stage, you can start using Telnet hosts or SNMP management stations to perform FCD–E1/T1/M configuration activities.

3. Edit Configuration Mode Operations

The Edit Configuration Mode displays a user-programmed FCD–M configuration or FCD–M default configuration. The Edit Configuration is not necessarily the same as the actual FCD–M (Agent) configuration.

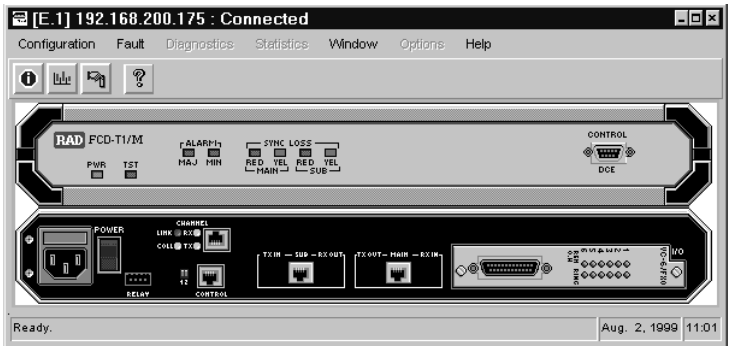
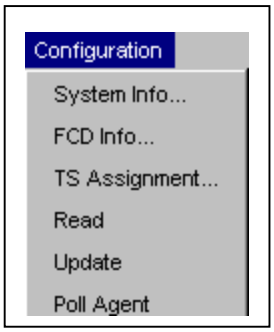


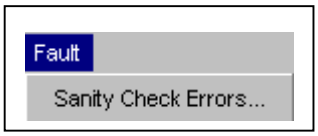
Figure 1. FCD–E1/T1/M Edit View

Table 1 lists the different management options for the system level.

Table 1. System Management Options

Tasks – Configuration	Dialog Box and Parameter Location	Path
Displaying system information	System Information dialog box (Figure 2, page 5)	Configuration ↪System Info…
Setting FCD timing information	FCD Information dialog box (Figure 3, page 5)	Configuration ↪FCD Info…
Assigning Time Slots	TS Assignment dialog box (Figure 4, page 7)	Configuration ↪TS Assignment…
Transfering current agent configuration to edit configuration	See page 13	Configuration ↪Read…
Transfering edit configuration to agent configuration	See page 13	Configuration ↪Update…
Polling the agent	See page 14	Configuration ↪Poll Agent…
Tasks - Fault	**Dialog Box and Parameter Location**	**Path**
Viewing list of sanity check errors	Sanity Check Errors List (Figure 9, page 15)	Fault ↪Sanity Check Errors…
Tasks - Window	**Dialog Box and Parameter Location**	**Path**
Displaying Agent view	See page 15	Window ↪Agent View





Displaying System Information

➤ **To display FCD–M System Information:**

- From the **Configuration** menu, select **System Info**….

Or

- Click the shortcut key on the toolbar .

The FCD–M System Info dialog box appears.

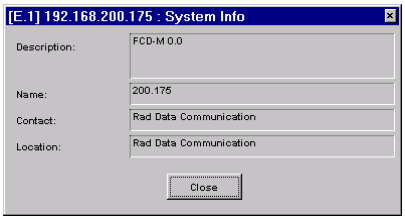


Figure 2. System Info

Setting FCD–M Clock Source

➤ **To modify FCD–M clock source configuration:**

- From the Configuration menu, select FCD–M Info...

The FCD–M Info dialog box appears.

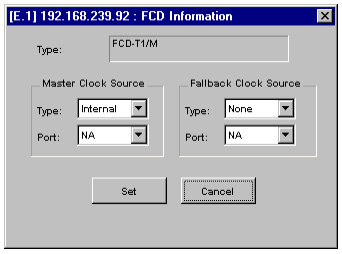


Figure 3. FCD–M Info

Table 2. FCD–M Information Parameters

Parameter	Possible Values / Remarks
Type	The type of WAN agent **FCD–E1/T1/M**, **FCD-T1/M**
Master Clock Source	Master timing reference for FCD
Type	Main source for FCD–M timing **Internal, Rx Clock**
Port	The port through which the master clock signal is received **Main E1/T1, SUB E1/T1, CH, External–1..External–4** (only for HS cards) This parameter can be configured only when the Master Clock Source Type=Rx Clock. Only existing ports can be selected.
Fallback Clock Source	Alternate (fallback) timing reference for the main link, to be used in case the master clock fails

Table 2. FCD–M Information Parameters (Cont.)

Parameter	Possible Values / Remarks
Type	Alternate source for FCD–M timing **Rx Clock, None**
Port	The port through which the fallback clock signal is received **Main E1/T1, SUB E1/T1, CH, External–1..External–4** (only for HS cards) This parameter can be configured only when the Fallback Clock Source Type=Rx Clock.Only existing ports can be selected.

Note *If Master/Fallback Type is Rx Clock and the selected port is CH, configure the CH as follows: Rate>0, Clock Mode=DTE*

Select a CH as Rx Clock for Master Clock rather than for Fallback Clock.

TS Assignment

The TS Assignment command allows you to program the routing of individual time slots.

- All connections are made via the Main Link.
  To expedite the routing, a sequential "group" routing mode is also available. One "group" (group of time slots, identified by the starting time slot number and the total number of time slots) can be routed to the required destination port, and inserted in the destination frame. You can also specify the starting time slot in the destination frame.
- You can either select the destination time slots for your data individually, or specify a "group"routing mode. HS ports support the following "group"routing modes:
  - **All** routing mode, in which all of the port's available time slots may be connected. Destination TS = 1.
  - **Sequential** routing mode, as described above.
  - **Alternate** routing mode, which is available for connection to T1 destinations. The group time slots are inserted in alternate time slots of the destination frame, starting with a specified time slot.

Time slot connections can be programmed at two different levels:

- At the Port level, you can connect/disconnect all TSs or connect a group of TSs in a port-to-port connection.
- At the TS level, you can connect/disconnect individual TSs.

Time Slot Assignment Window - Port Level

The TS Port level is the initial entry level of the time slot assignment function. It provides a global view of FCD–M TS connections.

➤ **To display the Port level TS Assignment window:**

- From the **Configuration** menu, select **TS Assignment...**

Or

- Click the shortcut key on the toolbar .

The TS Assignment window appears. In this window, you can define time slot connections for FCD–M ports.

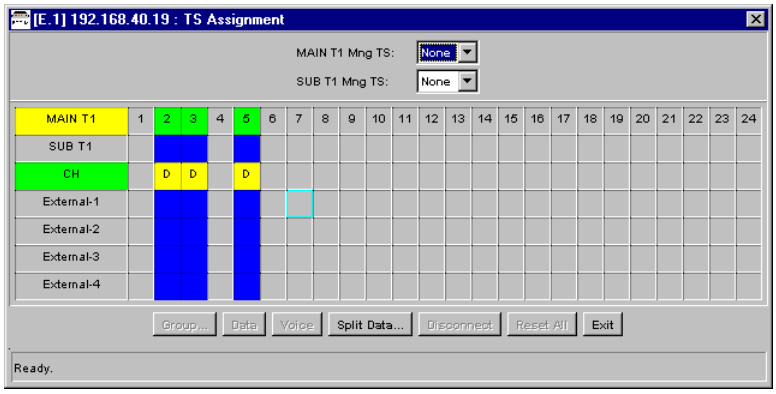


Figure 4. TS Assignment Dialog Box

A rectangular grid displays the time slot assignments. Each row and each column represents the possible connections of a specific port.

Since all ports are connected to MAIN E1/T1 port, the top row shows the TS assignments of the MAIN E1/T1. For the MAIN E1, there are 31 Time Slots. For the MAIN T1, there are 24 Time Slots.

Colors, letters and guides indicate information about the time slots and ports represented in the grid. Their meanings are described in the following pages.

TS Color Codes

Since each TS has only one type and can be connected to only one port, each TS column can have only one cell with a letter inside. Both connection cells and port indicator cells use color codes to relay connection information.

Table 3. TS Color Codes

Color	Remarks
2 **Green + number**	TS in this port is connected and is not being used for Management.
5 **Gray + number**	TS in this port is available for connection, but currently has no TS connection.
16 **Blue + number**	TS in this port has no connections and cannot be TS connected.
16 Red + number	There is an invalid connection.
1 **White + number**	TSs in this port is connected and being used for Management.

Table 4. Inside Cells Color Codes

Color	Remarks
Gray empty	Cell's port has no current TS connections but can be TS connected.
Blue empty	Cell's port has a TS connections.
Red empty	There is an invalid connection.
White empty	Cell's port is being used for Management.
Yellow + letter	Cell's port has at valid TS connection of type indicated by letter.

Table 5. Letter Codes

Color	Remarks
V	Voice
D	Data

Table 6. Port Name Color Codes

Color	Remarks
Green	All of the port's connectable TS connections are connected. Valid for the MAIN or SUB ports only. CH ports are green only after the first TS has been assigned.
Gray	None of the port's connectable TSs are being used.
Red	This occurs when one of the port's cells is red.
Yellow	Some of the TSs are connected. Valid for the MAIN or SUB ports only.

Selecting a Port Cell

Select a port cell by clicking on it. A bold border surrounds the selected port indicator cell. This enables you to identify the connected port more easily. The border remains fixed on the selected cell, even if you move the cursor elsewhere on the screen

Figure 5. Selected Cell

Displaying the Rate of HS cells

The rate of a HS port can be displayed by placing cursor over the HS port title cells.

Creating a TS Connection

You can create a new TS connection only on gray cells (cells with connectable TSs).

➤ **To create a new TS connection:**

- Click an empty gray cell and click the Data or Voice button.

➤ **To disconnect a TS connection in a gray cell:**

- Click the connected cell and click **Disconnect**.

  The TSs cell's become gray. This indicates that the cells have no TS connection but their TSs are connectable.

Possible TS Connections

The table below provides information about the allowed TS connections for the various ports. Sometimes the program will allow the user to make an illogical connection, other times it won't. The following guidelines are provided to help the user understand the legal TS connections.

Table 7. TS Connections

Port	Connectable Time Slots / Remarks
MAIN T1	**None**, **1..24**, **FDL or TS0**
MAIN E1	TS 16 is not available for connection when Line Type=E1-MF or E1-CRC-MF **None**, **1..31**, **FDL or TS0**
SUB T1	**None, 1..24**, **FDL or TS0**
SUB E1	TS 16 is not available for connection when Line Type=E1-MF or E1-CRC-MF **None, 1..31**, **FDL or TS0**
CH, External-1..External-n	All Time Slots are available for connection if Inband Mng is not set to Dedicated TS, Dedicated PPP or Dedicated FR. **T1: 1..24** **E1: 1..31** If Inband Mng=Dedicated TS, Dedicated PPP or Dedicated FR all TSs are available except the TS that is being used for management in the main link. TS 16 is not available when Line Type=E1-MF or E1-CRC-MF in the main link.

Connecting Time Slots

➤ **To connect all of a cell's connectable time slots:**

1. Ensure that nothing is selected.
2. From the TS Assignment Window, click **Group...**

   The Group Connection dialog box appears.

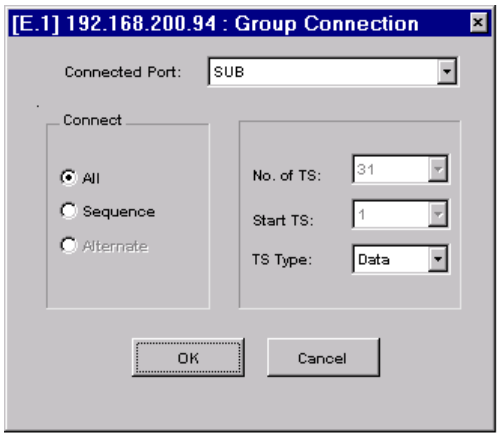


Figure 6. TS Group Connection

The Group Connection dialog box allows you to connect all connectable time slots of the same type or to connect specific sequential time slots.

3. Select **All** as the Mode.
4. If necessary, select the **TS Type**. The available options are **Voice** or **Data**.
5. Click **OK** to continue or **Cancel** to return to the TS Assignment Window.

   Clicking **OK** overwrites any previously existing connections and then implements the new connection setup. The possible TS assignments vary depending on the types of the cells' ports.

➤ **To connect a sequence of time slots:**

1. In the TS Assignment Window, ensure that nothing is selected.
2. From the TS Assignment Window, click **Group...**

   The Group Connection dialog box appears.
3. Select **Sequence** as the Mode.
4. Choose the appropriate sequence values as follows:

Note *Mng TS and TS 16 of MAIN Link (SUB Link for E1-MF ports) can not be selected.*

Start TS	First TS in the sequence to be connected. For T1 ports, the range of TSs is 1 - 24. For E1 ports, the range of TSs is 1-31.
No. of TS	Number of TSs to be connected in the sequence. The maximum number of connections varies according to the port type and line type of the row port. For T1 row port, the number of possible TS connections ranges from 1 to 24. For E1 or E1-CRC row port, the number of possible connections ranges from 1 to 31. For E1-MF or E1-CRC-MF row port, the number of possible connections may be: 1..15, 17..31. TS 16 is the dedicated TS.

5. Click **OK** to continue or Cancel to return to the TS Assignment Window.

Note *Clicking OK when the mode is Sequence causes the system two perform certain tests. If the user has changed something that might cause a problem, a confirmation window will appear describing the situation. Click OK to confirm and overwrite any previously existing connections and then implements the new connection setup. The possible TS assignments vary depending on the types of the cells' ports.*

Alternate mode allows you to connect TSs from an HS port to alternating TSs in a T1 device.

Note *Alternate mode is available for T1 ports only.*

- For T1/E1 ports, the group's TSs are sorted on an odd/even basis [4,6,8,...2(1+n)].
- For HS ports, the group's TSs are sorted sequentially (1,2,3,...n).

➤ **To connect alternating time slots:**

1. In the TS Assignment Window, ensure that nothing is selected.
2. From the TS Assignment Window, click **Group...**

   The Group Connection dialog box appears.
3. Select **Alternate** as the Mode.
4. Choose the appropriate sequence values as follows:

No. of TS	Number of needed active time slots (*n* in the formula, *n*x56 or *n*x64 = data rate).
Start TS	First time slot of the T1 port which is connected to TS1 of the HS port. The available options depend on the number of needed active time slots (*n*). For T1 ports, the starting TS may be 1..24

5. Click **OK** to continue or **Cancel** to return to the TS Assignment Window.

Split Data Connections

The Split Data command enables you to change or disconnect the bits assigned for each port.

Note *Split Data is available only for:*
HS–R, HS–U/1 cards with external port Rate≤32 Kbps
HS–S, HS–U/I cards with internal port Rate=2, 4 bits

➤ **To change or disconnect bits assigned for each port:**

1. Click an empty gray cell (see note above).
2. Click **Split Data**.

   The Split Data dialog box appears.

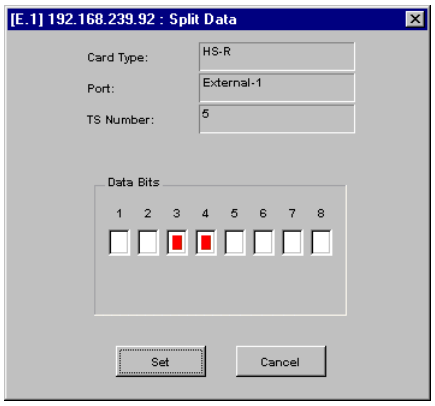


Figure 7. Split Data Dialog Box

Table 8. Split Data Parameters

Parameter	Possible Values / Remarks
Card Type	**HS–R, HS–U/1, HS–S, HS–U/I**
Port	External–n, Internal–n
TS Number	Selected TS
Data Bits	
1, 2, 3, 4, 5, 6, 7, 8	

Disconnecting TS Connections

You can disconnect individual TS connections or all TS connections in the selected port.

➤ **To disconnect an individual TS connection:**

1. Click a connection cell representing a TS connection (yellow or red).
2. Click **Disconnect**.

   The gray color indicates that the cell's ports have no TS connection but their TSs are connectable. If the cell becomes blue, TS connection is impossible between the two corresponding ports.

Reset All

➤ **To reset all TS connections on the grid:**

1. Ensure that no TS connection cell is selected.
2. Click **Reset All**.

   The message, Removing TS connections.
3. Click **OK** to continue.

   All existing TS connections in the port are deleted.

Exiting the TS Assignment Window

➤ **To exit the TS Assignment window:**

- Double-click the control box in the upper left corner of the window.

  If no change was made while this window was open, the window closes.

  If a change was made, a message, **Save window changes?**, appears. Click **Yes** to save the TS changes and **No** to close the window without saving any changes.

Reading (Uploading) the Agent Configuration

The **Read** command allows you to upload the current FCD–M agent configuration to the Edit Configuration. After the Read operation, the Edit Configuration is identical to the Agent Configuration.

Note *Read will be enabled only if there is communication with the agent.*

➤ **To upload the configuration from the agent:**

1. From the **Configuration** menu, select **Read**.

   The message, "**Read operation will replace edit configuration**", appears.

2. Click **OK** to confirm the operation.

   A bar indicates the progress of the operation. When finished, the window closes automatically.

Updating (Downloading) the Configuration to the Agent

After editing the FCD–M configuration, you can download the information to the FCD–M.

Note *Update is available only when there is communication with the agent.*

➤ **To download configuration modifications to the agent:**

- From the **Configuration** menu, select **Update**.

  The system will perform a Sanity Check, and if passed, the Update Configuration Window appears displaying the message: "**Update operation will replace Agent's configuration"**.

  After clicking **OK**, the new configuration is immediately downloaded to the FCD–M.

Note *Although RADview automatically polls the agent periodically, RAD recommends that the user manually poll the agent after performing an Update.*

*In the event that the sanity check found errors, the message **"Sanity Check Errors"** appears and update cannot be performed.*

*If the sanity check failed due to warnings (not errors), a message box appears indicating that there were warnings. The message box has the following options: **Cancel** (leave without updating/seeing the configuration), **View Warnings** (see warnings that were issued during Sanity Check), **Close (**return to the message box without updating the configuration), **Confirm Update** (update the configuration with the warnings at any stage).*

Polling the Agent

➤ **To manually poll the agent:**

- From the **Configuration** menu select **Poll Agent.**

Or

- Click the shortcut key on the toolbar .

  The system polls the agent immediately and updates the parameters accordingly.

4. Edit Configuration Fault Operations

Displaying Sanity Check Results

When the Edit Configuration mode is selected, you can display the results of the last FCD–M sanity check.

➤ **To view the results of the last agent sanity check:**

1. From the **Fault** menu, select **Sanity Check Errors...**

   If the Edit Configuration does not contain error(s) or warning(s), the message **No Sanity Errors** appears.

2. Click **OK** to continue.

   If the sanity check detects error(s) or warning situations, the Sanity Check Errors List and/or Warning List appears on the screen. Errors appear first in the list, followed by warnings. If necessary, click the scroll bar and scroll arrows to view the additional entries.

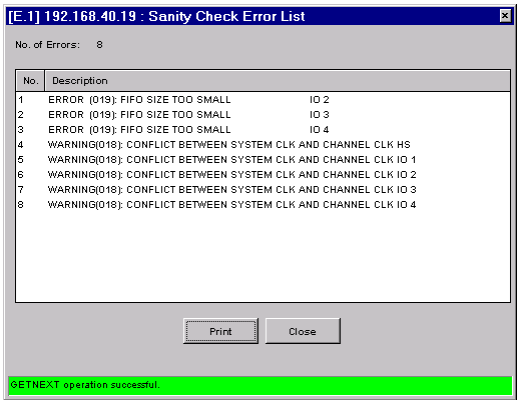

[E.1] 192.168.40.19 : Sanity Check Error List
No. of Errors: 8
No.
Description
1 ERROR (019): FIFO SIZE TOO SMALL IO 2
2 ERROR (019): FIFO SIZE TOO SMALL IO 3
3 ERROR (019): FIFO SIZE TOO SMALL IO 4
4 WARNING(018): CONFLICT BETWEEN SYSTEM CLK AND CHANNEL CLK HS
5 WARNING(018): CONFLICT BETWEEN SYSTEM CLK AND CHANNEL CLK IO 1
6 WARNING(018): CONFLICT BETWEEN SYSTEM CLK AND CHANNEL CLK IO 2
7 WARNING(018): CONFLICT BETWEEN SYSTEM CLK AND CHANNEL CLK IO 3
8 WARNING(018): CONFLICT BETWEEN SYSTEM CLK AND CHANNEL CLK IO 4
Print
Close
GETNEXT operation successful.

Figure 8. Sanity Check Errors List

5. Displaying the Agent View

If the Edit Configuration only is displayed on the screen, you may open the Agent view (if the agent is connected).

➤ **To open the agent part of the application window:**

- From the **Window** menu, select **Agent View**.

6. Edit Configuration Card View Operations

➤ **To select a card:**

- Click the desired card in the Edit Configuration View.

  The selected card is outlined by a light blue frame.

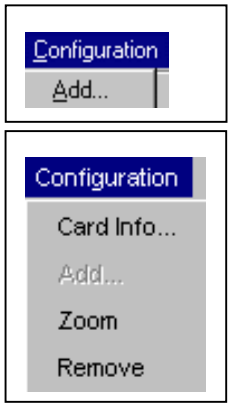
Table 9 lists the different management options for the card level.

Note *The contents of the **Configuration** menu depend on the current selection.*

- *If a card is selected, the Card Info, Zoom and Remove options are enabled.*
- *If an empty slot is selected, only the Add option is enabled.*
- *If the Card View is active, the Configuration menu contains only the Card Info option.*

Table 9. Card Level Management Options

Tasks – Configuration	Dialog Box and Parameter Location	Path
Adding a new card in the mux	New Card dialog box (Figure 11, page 18)	Configuration ↪Add…
Displaying zoomed card view	Zoomed Card View (Figure 9, page 16)	Configuration ↪Zoom
Displaying card information	Card Information dialog box (Figure 11, page 17)	Configuration ↪Card Info…
Removing a card	See page 18	Configuration ↪Remove



Zooming to Card View

You may display a more detailed view of the cards, including individual ports.

➤ **To display the card view of a specific card:**

Note *You cannot zoom in on empty slots, unknown cards and offline FCD–E1/T1/M cards.*

When a zoomed card window is open, positioning the mouse over the tool bar on the main window will cause the main window to appear on top of the zoomed window.

- From the **Configuration** menu, select **Zoom**.

Or

- Click the shortcut key on the toolbar .

The zoomed view (Card View) of the selected card is displayed.

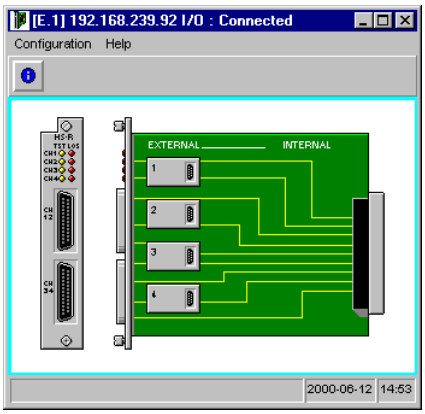


Figure 9. Sample Zoomed Card

➤ **To close the Card View window:**

- Double-click the upper-left hand corner of the Card View window.

Displaying Card Information

➤ **To display information about the selected card:**

- From the **Configuration** menu, select **Card Info**.

Or

- Click the shortcut key on the toolbar .

The Card Information dialog box appears. All information in this dialog box is read-only.

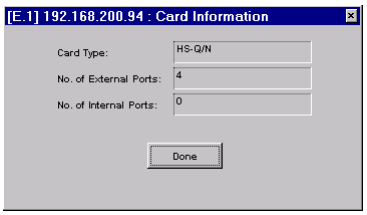


Figure 10. Card Information Dialog Box

Table 10. Card Information Parameters

Parameter	Possible Values / Remarks
Card Type	**Unknown, HS–Q, HS–Q/N, HS–U/I, HS–R, HS–S, HS–U/1, VC–6/E&M, VC–6/FXO, VC–6/FXS**
No. of External Ports	Number of external ports in the selected programmed card
No. of Internal Ports	Number of internal ports in the selected programmed card

Adding a New Card

You may program a new card in an empty slot in the Edit Configuration.

➤ **To add a new card to the Edit Configuration:**

1. Click an empty slot.
2. From the **Configuration** menu, select **Add**.

Or

3. Click the shortcut key on the toolbar .
   The New Card dialog box appears.
4. Select the required card type and click **Set**.

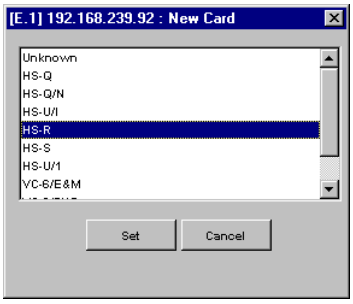


Figure 11. New Card Dialog Box

Table 11. New Card Parameters

Parameter	Possible Values / Remarks
Slot	FCD–E1/T1/M physical slot that the card occuppies.
Card Type	Name of card to be added **UNK, HS–Q, HS–Q/N, HS–U/I, HS–R, HS–S, HS–U/1, VC–6/E&M, VC–6/FXO, VC–6/FXS**

Removing a Card

You may remove cards from the Edit Configuration.

➤ **To remove a card from the Edit Configuration:**

1. In the Edit Configuration window, click the card you want to remove.
2. From the **Configuration** menu, select **Remove**.

Or

3. Click the shortcut key on the toolbar .
   The message, "**All information about removed card will be lost**" appears.
4. Click **OK** to confirm removal of the card.

7. Edit Configuration Port Operations

You select a port by clicking on it in the card view (zoomed) window. A selected port is outlined by a blue frame. In the Edit Configuration window, selecting a port enables you to configure software configuration parameters for the selected port.

Displaying Port Parameters

The **Port Parameters** command enables you to view and edit the **Port Software Configuration, BERT Parameters** and **Information.**

Note *BERT Parameters are available for channel ports only.*

Control Port Software Configuration

➤ **To display software configuration of a Control DCE port:**

1. Select a SP - Supervisory Port.
2. From the **Configuration** menu, select **Port Parameters** followed by **Software Configuration...**

Or

3. Click the shortcut key on the toolbar .

The Port Software Configuration Dialog Box appears.

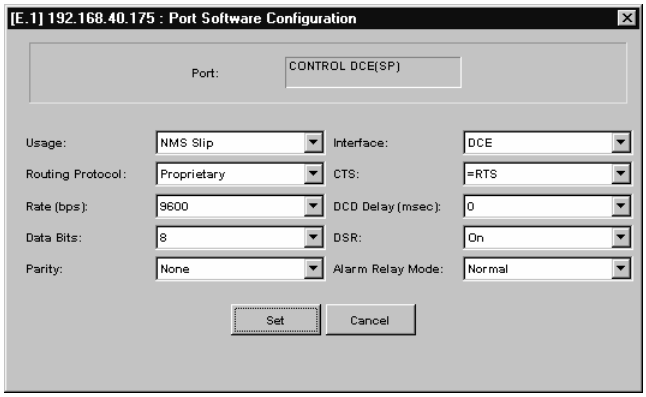


Figure 12. DCE SP Port Software Configuration Dialog Box

Table 12. DCE SP Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Usage	Function of the selected port **NMS Slip, NMS PPP, Agent Slip, Agent PPP**
Routing Protocol	Routing Protocol to be used **None, Proprietary, RIP–2**
Rate (bps)	Operational speed, in bps, of the selected port. If Usage is NMS Slip, the only available options are 9600 and 19200 bps **Auto, 300**, **1200**, **2400**, **4800**, **9600, 19200, 38400, 57600**
Data Bits	Number of data bits in the word format transmitted through the selected port **7, 8**
Parity	Parity mode used by the selected port **None**, **Odd** and **Even**
Interface	Type of supervisory port interface **DCE** for direct connection to supervision terminal **DTE** for connection through a modem to supervision terminal
CTS	State of the CTS (Clear to Send) line in the selected port **On** – CTS is always on **=RTS** – CTS line follows the local RTS line
DCD Delay (msec)	Time delay between Data Carrier Detection (DCD) and the sending of the data if the interface type is DTE **0**, **10**, **50**, **100**, **200, 300** If Interface=DCE, DCD Delay=0
DSR	State of the DSR line **On** – DSR line is continuously on **=DTR** -– DSR line tracks the DTR line On is only applicable if Interface=DCE
Alarm Relay Mode	**Normal, Invert**

➤ **To display software configuration of a Control DTE port:**

1. Select a Control DTE (DP) Port.
2. From the **Configuration** menu, select **Port Parameters** followed by **Software Configuration...**

Or

3. Click the shortcut key on the toolbar .

The Port Software Configuration Dialog Box appears.

Error! Objects cannot be created from editing field codes.

Figure 13. DTE DP Port Software Configuration Dialog Box

Table 13. Control DTE (DP) Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Usage	Function of the selected port **Dial Out**, **NMS Slip, NMS PPP, Agent Slip, Agent PPP**
Routing Protocol	Routing Protocol to be used **None, Proprietary, RIP–2**
Rate (bps)	Operational speed, in bps, of the selected port. If Usage is NMS Slip, the only available options are 9600 and 19200 bps **300**, **1200**, **2400**, **4800**, **9600, 19200, 38400, 57600**
Data Bits	Number of data bits in the word format transmitted through the selected port **7, 8**
Parity	Parity mode used by the selected port **None**, **Odd** and **Even**
Call Out Mode	Indicates when FCD–M will initiate a call **None, All, Major**
Dial Retries	Maximum number of retries to initiate a call **0..8**
Wait for Connect (sec)	Time required, in seconds, for connection when FCD–M initiates a call **30, 45, 60**
Dial Mode	Type of dialing. **Tone, Pulse**
Alternate No. Use	Indicates if Alternate No. is to be used **Yes, No**
Primary Dial No.	Number that FCD–M dials when it initiates a call **A maximum of 20 characters**
Alternate Dial No.	Alternate number that FCD–M dials if attempts to dial the Primary Dial Number are unsuccessful **A maximum of 20 characters**

➤ **To display software configuration of a Control DTE (DP-ETH) port:**

1. Select a DP-ETH - Dial Port.
2. From the **Configuration** menu, select **Port Parameters** followed by **Software Configuration...**

Or

3. Click the shortcut key on the toolbar .

The Port Software Configuration Dialog Box appears.

Error! Objects cannot be created from editing field codes.

Figure 14. DTE DP-ETH Port Software Configuration Dialog Box

Table 14. DCE SP Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Routing Protocol	Routing Protocol to be used **None, Proprietary, RIP–2**

MAIN T1, SUB T1 Software Configuration

The MAIN T1 port always exists. SUB T1 is optional. MAIN T1 ports can be of type T1–CSU, T1–DSU or T1–F. SUB T1 ports can be of type T1-CSU or T1–DSU.

➤ **To display the software configuration of a T1 port:**

1. Select the required port.
2. From the **Configuration** menu, select **Port Parameters** followed by **Software Configuration...**

Or

3. Click the shortcut key on the toolbar .

The Software Configuration Dialog Box for the T1 port appears.

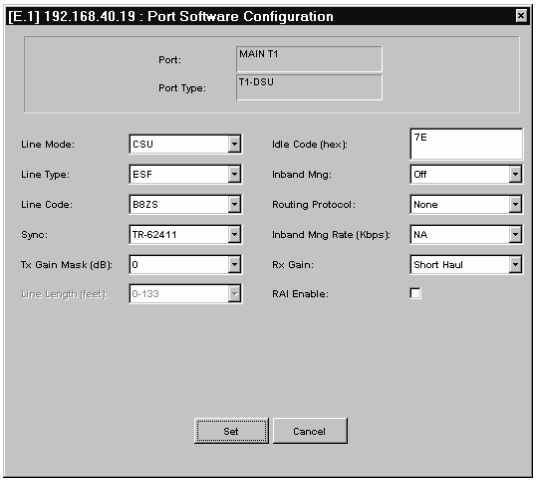


Figure 15. Main T1 Port Software Configuration

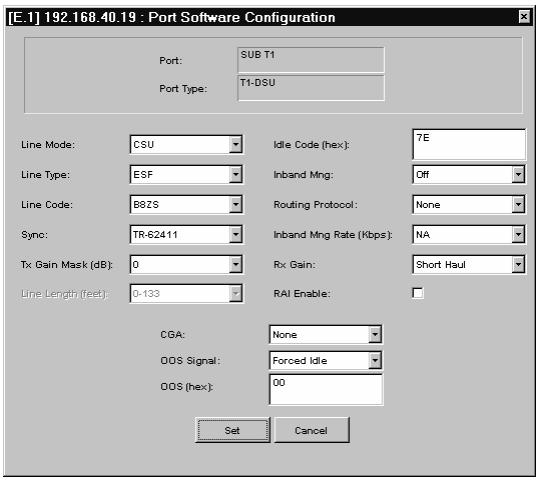


Figure 16. Sub T1 Port Software Configuration

Table 15. T1 Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Line Mode	Line mode for the selected port. This is only applicable for T1-CSU and T1-DSU ports **CSU, DSU, NA**
Line Type	Type of T1 line implementing the selected circuit. The type of circuit affects the number of frames that the circuit can carry. If the Line Type is Unframed, clicking Set triggers a warning that all FCD–M TS connections will be disconnected and the Rate set to 0. **ESF** (Extended Superframe DS1) – 24 frames per multiframe **D4** (AT&T D4 format DS1) – 12 frames per multiframe **Unframed** Note: When Line Type=Unframed the Sub port does not function

Table 15. T1 Port Software Configuration Parameters (Cont.)

Line Code	Line coding method used for zero suppression **B7** – B7ZS coding, Jammed Bit zero suppression. A pulse is forced in bit 8 of each 8-bit period of each channel. Therefore, only 7 bits per channel (1.344 Mbps) is available for data **B8ZS** – B8ZS coding. A specified pattern of normal bits and bipolar variations replaces a sequence of 8 zero bits. This option provides clear channel capability **Trans** – Transparent (AMI) coding. No zero suppression is present Note: When Inband Mng=Dedicated TS, PPP or FR, do not set Line Code=B7, this will cause an error message when a sanity check is performed
Sync	Reduces the time required for the T1 port to return to normal operation after local loss of synchronization **TR-62411** – Complies with AT&T TR-62411 (after 10 seconds) **Fast** – after 1 second
Tx Gain Mask (dB)	This field is enabled only if the port type is T1-CSU **0**, **7.5**, **15**, **22.5**
Line Length (feet)	This field is enabled only if the port type is T1-DSU **0-133**, **134-266**, **267-399**, **400-533**, **534-655**
Idle Code	Hexadecimal code transmitted to fill idle (unused) time slots in frames transmitted through the selected port. To change the code, type the required code in the edit box **00** – **FF**
Inband Mng	Identifier of the inband management of the selected link **Off**, **FDL or TSO, Dedicated TS, Dedicated PPP, Dedicated FR** Note: When Inband Mng=Dedicated TS, PPP or FR, do not set Line Code=B7, this will cause an error message when a sanity check is performed
Routing Protocol	Routing protocol to be used **None, Proprietary, RIP–2** When Inbang Mng=Off, Routing Protocol=None
Inband Mng Rate (Kbps)	**NA, 8, 16, 32, 64**
Rx Gain	**Short Haul, Long Haul**
RAI Enabled	**Enabled** (checked), **Disabled** (unchecked)
	The following fileds are available only if there is a SUB T1 port
CGA	Method used to signal the carrier group alarm (CGA) state to the other end of the selected link **None** - Non-transparent mode. When one of the links is in out-of-service state, the time slots carry the appropriate out-of-service code (data/voice OOS) to the other end of the link **Trans** - When one of the links is in out-of-service state, the time slots carry the appropriate OOS code to the other end of the link. Signaling bits A and B are not forced into the OOS state **Full** - Fully transparent mode. When one of the links is in out-of-service state, the state of the time slots and the state of the signaling bits does not change

Table 15. T1 Port Software Configuration Parameters (Cont.)

OOS Signal	State of the signaling bits when the link is in out-of-service (OOS) state **Forced Idle** – Signaling bits A and B are idle when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also idle **Forced Busy** - Signaling bits A and B are busy when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also busy **Busy Idle** - Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are idle for 2.5 seconds before switching to busy state **Idle Busy** - Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are busy for 2.5 seconds before switching to idle state
OOS (hex)	**00..FF**

MAIN E1, SUB E1 Software Configuration

The MAIN E1 port always exists. SUB E1 is optional.

➤ **To display the software configuration of an E1 port:**

1. Select the required port.
2. From the **Configuration** menu, select **Port Parameters** followed by **Software Configuration...**

Or

3. Click the shortcut key on the toolbar .

The Port Software Configuration Dialog Box appears.

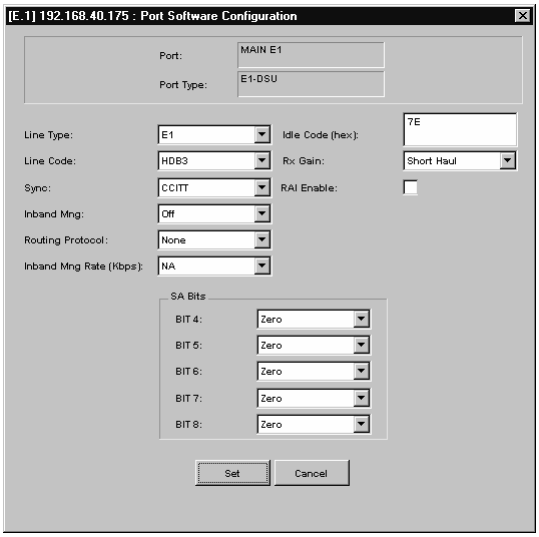


Figure 17. MAIN E1 Port Software Configuration

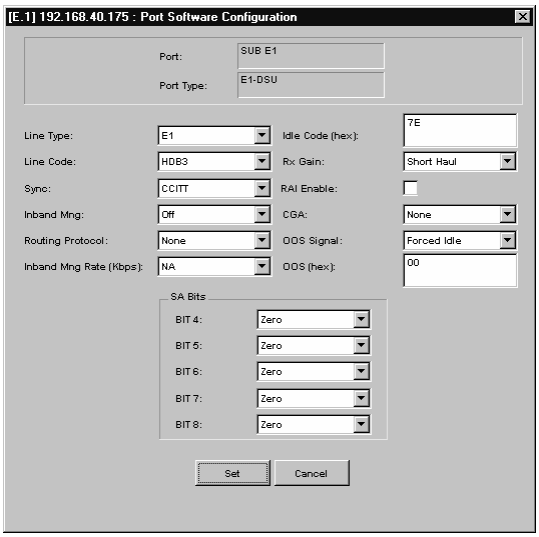


Figure 18. SUB E1 Port Software Configuration

Table 16. E1 Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Line Type	Type of E1 line implementing the selected circuit. The type of circuit affects the number of frames that the circuit can carry. **E1** (CCITT Rec. G.704 - Table 4a) **E1-CRC** (CCITT Rec. G.704 - Table 4b) **E1-MF** (CCITT Rec. G.704 - Table 4a, with TS16 multiframing enabled) **E1-CRC-MF (**CCITT Rec. G.704 - Table 4b, with TS16 multiframing enabled) **Unframed** (for use when the data being transmitted is unframed) Note: If the Line Type is Unframed, clicking Set triggers a warning that all of FCD–M TS connections will be disconnected and the Rate set to 0 Note: When Line Type=Unframed the Sub port does not function
Line Code	Line coding method used for zero suppression **HDB3**
Sync	Reduces the time required for the E1 port to return to normal operation after local loss of synchronization **TR-62411** - Complies with AT&T TR-62411 (after 10 seconds) **CCITT** - Complies with CCITT Rec. G.732 **Fast** - after 1 second
Inband Mng	Identifier of the inband management of the selected link **Off**, **FDL or TSO, Dedicated TS, Dedicated PPP** and **Dedicated FR**
Routing Protocol	Routing protocol to be used **None, Proprietary, RIP–2**
Inband Mng Rate (Kbps)	Rate of Inband Mng. NA when Inband Mng is Off/FDL or TSO **NA, 8, 16, 32, 64**

Table 16. E1 Port Software Configuration Parameters (Cont.)

SA Bits	
Bit 4 Bit 5 Bit 6 Bit 7 Bit 8	This parameter enables the user to use the TSO Sa Bits 4 to 8 by 3 octets. **Zero, Zero, <u>One</u>, Management, Transparent** Each Sa bit is represented by a nibble where: 0000=Zero 0001=One 0010=Management 0011=Transparent Management is available when Inband Mng is FDL or TSO
Idle Code	Hexadecimal code transmitted to fill idle (unused) time slots in frames transmitted through the selected port. To change the code, type the required code in the edit box **00 – FF**
RX Gain	**<u>Short Haul</u>, Long Haul**
RAI Enabled	**Enabled** (checked), **<u>Diabled</u>** (unchecked)
	The following fileds are available only if there is a SUB E1 port
CGA	Method used to signal the carrier group alarm (CGA) state to the other end of the selected link **None** - Non-transparent mode. When one of the links is in out-of-service state, the time slots carry the appropriate out-of-service code (data/voice OOS) to the other end of the link **Trans** - When one of the links is in out-of-service state, the time slots carry the appropriate OOS code to the other end of the link. Signaling bits A and B are not forced into the OOS state **Full** - Fully transparent mode. When one of the links is in out-of-service state, the state of the time slots and the state of the signaling bits does not change
OOS Signal	State of the signaling bits when the link is in out-of-service (OOS) state **Forced Idle** - Signaling bits A and B are idle when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also idle **Forced Busy** - Signaling bits A and B are busy when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also busy **Busy Idle** - Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are idle for 2.5 seconds before switching to busy state **Idle Busy** - Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are busy for 2.5 seconds before switching to idle state
OOS (hex)	**00..FF**

CH, HS–Q, HS–Q/N Software Configuration

Note *CH software configuration exists for FCD–M HS ports and for HS ports of HS-Q and HS-Q/N cards. For FCD–E1/T1/M there is only one HS port.*

➤ **To display the software configuration of a HS port:**

1. Select the required port.
2. From the **Configuration** menu, select **Port Parameters** followed by **Software Configuration...**

Or

3. Click the shortcut key on the toolbar .

   The Port Software Configuration dialog box appears. If the selected port is an IR-ETH port, then the dialog box contains two tabs: HS Specifications and ETH Specifications. Click on the desired tab to configure the port parameters.

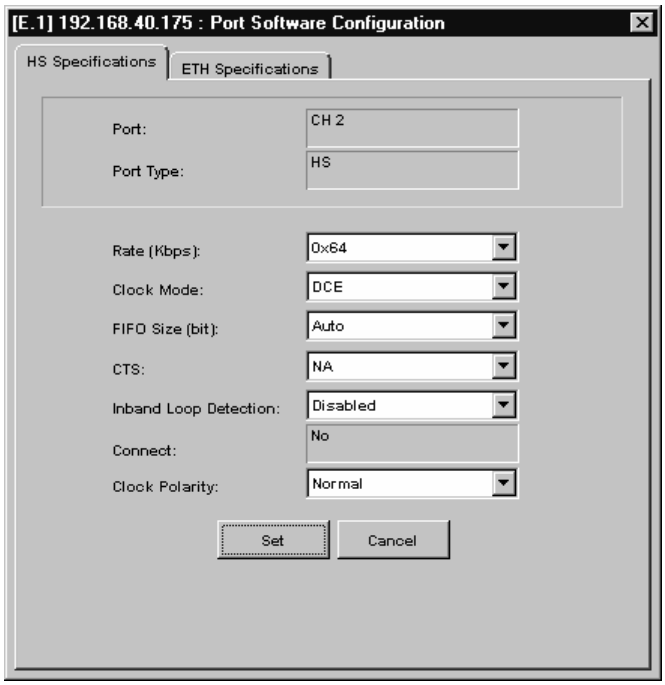


Figure 19. HS Specifications Tab

Table 17. HS Specifications Tab Parameters

Parameter	Possible Values / Remarks
Connect	This field is read-only. Yes indicates that there are connected time slots **Yes, No**
Rate (Kbps)	**0, nx56, nx64** Note: If the line type is unframed for the MAIN E1/T1, then the Rate=0X64
Clock Mode	The clock mode **DCE, EXT-DCE, DTE**
FIFO Size (bit)	The available options depend on the Clock Mode **Auto**, **16**, **30**, **52, 72**
CTS	**On, =RTS**
Inband Loop Detection	**Disabled, Enabled**
Clock Polarity	Indicates the clock polarity. Only for HS ports **Normal, Invert** **NA:** for HS-Q, HS-Q/N ports
Control Signal	**Local, End to End, NA** Only available for HS CH port

Note ***When setting the channel Control Signal value for E1-MF or E1-CRC/MF line types:***

- *If you have a V-35 interface, set the Control Signal to NA.*
- *If you have an interface other than V.35, set the Control Signal to Local or End-to-end.*

If the Control Signal values of the interfaces are set incorrectly, these incorrect values will appear only in the Edit Configuration Mode. However, RADview automatically inputs the correct values in the Agent Configuration Mode.

When setting the channel Control Signal to values other than E1-MF or E1-CRC/MF line types:

- *Set the Control Signal to NA.*

If the Control Signal values of the interfaces are set incorrectly, these incorrect values will appear only in the Edit Configuration Mode. However, RADview automatically inputs the correct values in the Agent Configuration Mode.

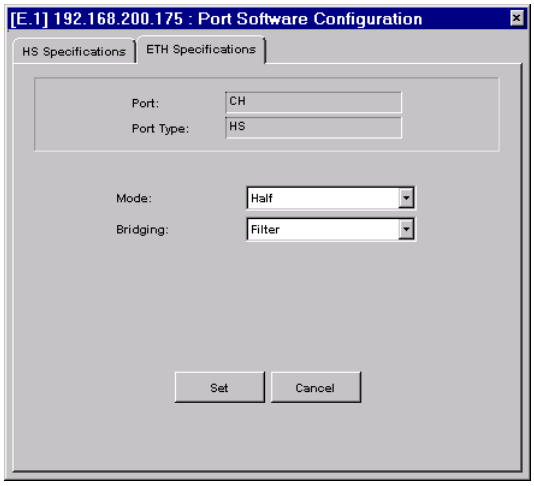


Figure 20. ETH Specifications Tab

Table 18. ETH Specifications Tab Parameters

Parameter	Possible Values / Remarks
Mode	**Half Duplex, Full Duplex**
Bridging	**Filtered, Transparent**

VC-6 Software Configuration

➤ **To display the software configuration of a VC-6 port:**

1. Zoom in on the card.
2. In the card view, select the required port.
3. From the Configuration menu, select Port Parameters followed by Software Configuration...

Or

4. Click the shortcut key on the toolbar .

   The Port Software Configuration dialog box appears.

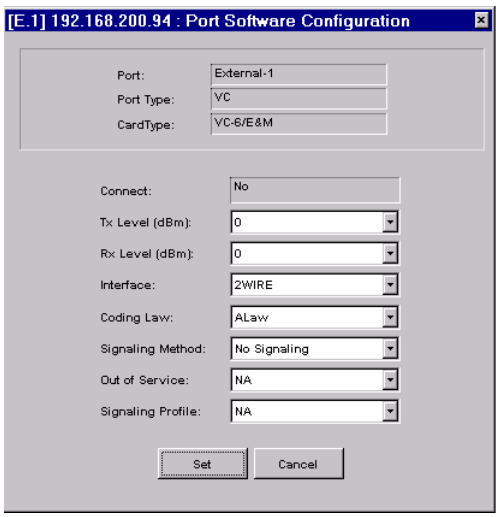


Figure 21. VC-6 Port Software Configuration

Table 19. VC-6 Software Configuration Parameters

Parameter	Possible Values / Remarks
Connect	Indicates whether there are connected time slots **Yes** or **No** This field is read-only
Tx Level (dBm)	The transmit level **VC-6/E&M: -17 < Tx < 8** **VC-6/FXO: -18 < Tx < 7** **VC-6/FXS: -13 < Tx < 8**
Rx Level (dBm)	The receive level **VC-6/E&M: -23 < Tx < 2** **VC-6/FXO: -23 < Tx < 2** **VC-6/FXS: -17 < Tx < 2**
Interface	For E&M and MVTC-2 cards: **2 WIRE**, **4 WIRE** For all other cards: **2 WIRE** Note: This parameter's value is the same for all the other ports of this card. Changing the value will automatically change the value in all the other ports.

Table 19. VC-6 Software Configuration Parameters (Cont.)

Coding Law	Type of coding law used For FCD–M/E1: **Alaw, Ulaw** For FCD–M/T1: **Alaw, Ulaw** Note: This parameter's value is the same for all the other ports of this card. Changing the value will automatically change the value in all the other ports.

Signaling Method	The choice of Signalling Method varies depending on the type of card. Not all options are available for each card **No Signalling**, **RoddedBitMultiFrame**, **RobbedBitFrame**, **CH Associated E1** Note: This parameter's value is the same for all the other ports of this card. Changing the value will automatically change the value in all the other ports.
Out of Service	State of the signaling bits when the link is in out-of-service (OOS) state. **Forced Idle** – Signaling bits A and B are idle when the link is in out-of-service state. **Forced Busy** – Signaling bits A and B are busy when the link is in out-of-service state. **Busy Idle** – Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. **Idle Busy** – Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. **NA** – Not available when Signalng Method=No Signaling. Note: Not all options are available for each card. This parameter's value is the same for all the other ports of this card. Changing the value will automatically change the value in all the other ports.Out of Service is the same for all ports on the card
Signaling Profile	For E&M cards: **NA, 1** For FXO & FXS cards:**NA, 1, 2** **NA** when Signaling Method=No Signaling. Note: This parameter's value is the same for all the other ports of this card. Changing the value will automatically change the value in all the other ports.

HS-U/I and HS-S Software Configuration

HS-U/I and HS-S cards each have four external ports and thirteen internal ports.

➤ **To edit HS-U/I or HS-S Software Configuration external port parameters:**

1. Select an external port of the HS-U/I or HS-S card.
2. From the **Configuration** menu, select **Port Info**, followed by **Software Configuration…**

   The Software Configuration dialog box for external ports of the HS-U/I or HS-S card appears.

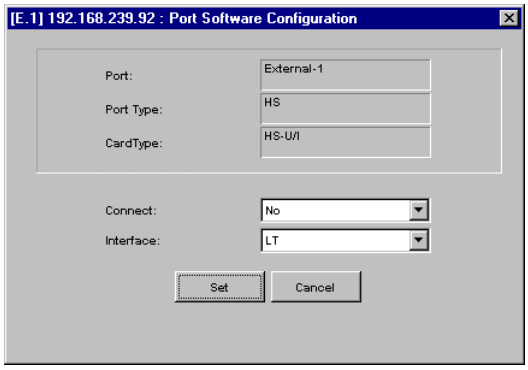


Figure 22. HS-U/I and HS-S External Port Software Configuration Dialog Box

Table 20. HS-U/I and HS-S External Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Slot	Slot in which the selected card is installed **IO-1 to IO-12**
Port	Number of the selected port **external-1 to external-4**
Card Type	Type of card installed in the selected slot **HS-U/I, HS-S**
Connect	**No, Yes**
Interface	For HS–U/I: **LT** = line termination, **NT** = network termination For HS–S: **TE** = terminal equipment, **NT** = network termination Note: Interface must be the same for all external channels.
Link To Slot	The slot of the MTML card to which the **IO** port is mapped **IO-1 to IO-12** Slots without MTML cards are not available for selection
Link To Port	The port in the ML card to which the **IO** port is mapped **external-1 to external-4** Do not select External–3, External–4 for this card

Note *If one of the internal channels is connected, its respective external channel should be connected. External–1 corresponds to Internal–1, Internal–2 and Internal–3. External–2 corresponds to Internal–4, Internal–5 and Internal–6. External–3 corresponds to Internal–7, Internal–8 and Internal–9. External–4 corresponds to Internal–10, Internal–11 and Internal–12.*

➤ **To edit HS-U/I and HS-S Software Configuration parameters for internal ports:**

1. Select an internal port of the HS-U/I or HS-S card.
2. From the **Configuration** menu, select **Port Info**, then **Software Configuration**.

   The Software Configuration dialog box for internal ports of the HS-U/I or HS-S card appears.

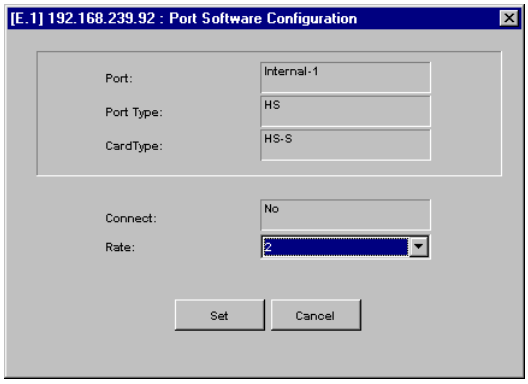


Figure 23. HS-U/I and HS-S Internal Port Software Configuration Dialog Box

Table 21. HS-U/I and HS-S Internal Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Slot	Slot in which the selected card is installed **IO-1 to IO-12**
Port	Number of the selected port **internal-1 to internal-13**
Card Type	Type of card installed in the selected port **HS-U/I, HS-S**
Connect	**No, Yes** Note: For Internal–13, Connect=Yes only when Rate=Concentrated for any of the following internal ports: 3, 6, 9, 12
Rate (bits)	For internal ports 1, 2, 4, 5, 7, 8, 10, 11: **2, 4, 8** For internal ports 3, 6, 9, 12: **2**, Concentrated

HS-R Software Configuration

HS-R cards have four external ports.

➤ **To edit HS-R Software Configuration parameters:**

1. Select an external port of the HS-R card.
2. From the **Configuration** menu, select **Port Info**, then **Software Configuration...**.

   The Software Configuration dialog box appears.

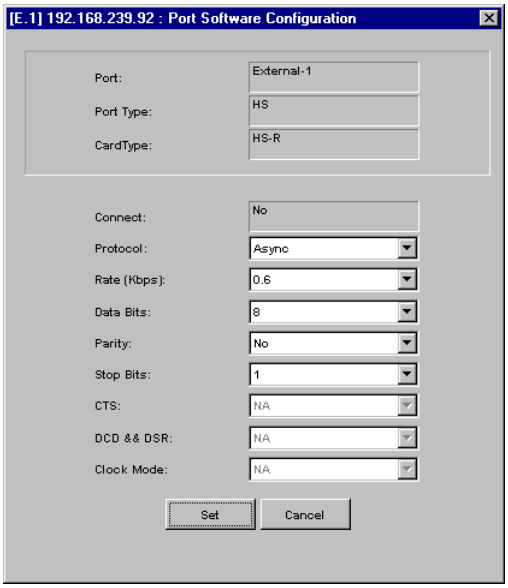


Figure 24. HS-R Software Configuration Dialog Box

Table 22. HS-R Software Configuration Parameters

Parameter	Possible Values / Remarks

Slot	Slot in which the selected card is installed **IO-1 to IO-12**
Port	Number of the selected port **external-1 to external-4**
Card Type	Type of card installed in the selected slot **HS-R**
Connect	Indicates whether the port should be considered in any of the Megaplex algorithms **No, Yes**
Protocol	Applied protocol **Sync, Async**
Rate (Kbps)	Port speed When Protocol=Async: **0.6, 1.2, 2.4, 4.8, 9.6, 19.2, 38.4.** When Protocol=Sync: **0.6, 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 48.0, 56.0, 64.0.**
Data Bits	**5, 6, 7, 8** **NA** when Protocol=Sync
Parity	**No, Yes** **NA** when Protocol=Sync
Stop Bits	**1, 2** **NA** when Protocol=Sync
CTS	**On, RTS** **NA** when Protocol=Sync
DCD & DSR	**Local, End to End**
Clock Mode	**DCE, Ext-DCE** **NA** when Protocol=Sync

HS-U/1 Software Configuration

HS-U/1 cards have four external ports and four internal ports.

➤ **To edit HS-U/1 Software Configuration external port parameters:**

1. Select an external port of the HS-U/1 card.
2. From the **Configuration** menu, select **Port Info**, followed by **Software Configuration...**.

   The Software Configuration dialog box for external ports of the HS-U/1 card appears.

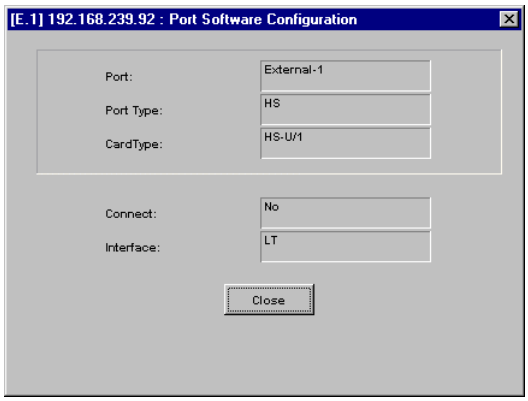


Figure 25. HS-U/1 External Port Software Configuration Dialog Box

Table 23. HS-U/1 External Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Slot	Slot in which the selected card is installed **IO-1 to IO-12**
Port	Number of the selected port **external-1 to external-4**
Card Type	Type of card installed in the selected slot **HS-U/1**
Connect	**No**, **Yes**
Interface	**LT** = line termination

➤ **To edit HS-U/1 Software Configuration internal port parameters:**

1. Select an internal port of the HS-U/1 card.
2. From the **Configuration** menu, select **Port Info**, followed by **Software Configuration...**.

   The Software Configuration dialog box for internal ports of the HS-U/1 card appears.

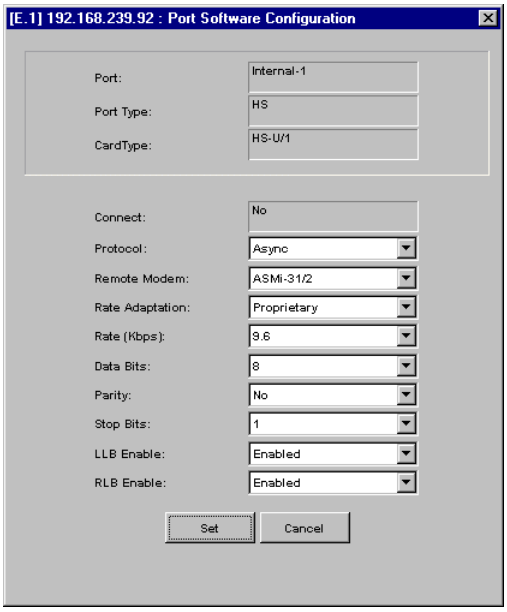


Figure 26. HS-U/1 Internal Port Software Configuration Dialog Box

Table 24. HS-U/1 Internal Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Slot	Slot in which the selected card is installed **IO-1 to IO-12**
Port	Number of the selected port **internal-1** to **internal-4**
Card Type	Type of card installed in the selected slot **HS-U/1**
Connect	**No, Yes**
Protocol	**Sync, Async**
Remote Modem	**ASMi–31, ASMi–31/2,**
Rate Adaptation	**Proprietary, V.110** **NA** when Remote Modem=ASMi–31
Rate (Kbps)	Port speed. Available options depend on Protocol Type When Protocol=Sync and Remote Modem=ASMi–31/2 and Rate Adaptation=V.110: **0.6, 1.2, 2.4, 4.8, 9.6, 16.0, 19.2, 32.0, 38.4, 48.0, 56.0, 64.0, 128.0** else: **0.6, 1.2, 2.4, 4.8, 9.6, 16.0, 19.2, 32.0, 38.4, 48.0, 64.0, 128.0** When Protocol=Async: **0.6, 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 57.6, 115.2**
Data Bits	Number of data bits in the word format transmitted through the selected port When Remote Modem=ASMi-31/2 and Rate Adaptation=V.110: **5, 6, 7, 8** else: **7, 8**

Table 24. HS-U/1 Internal Port Software Configuration Parameters (Cont.)

Parity	Parity mode used by the selected port **No**, **Odd, Even**.
Stop Bits	Number of stop bits **1, 2**
Data Bits	**5, 6, 7, 8** **NA** when Protocol=Sync
Parity	**No, Yes** **NA** when Protocol=Sync
Stop Bits	**1, 2** **NA** when Protocol=Sync
LLB Enable	Controls the activation of a local loopback **Enabled** (checked) Loopback activation enabled **Disabled** (unchecked) Loopback activation disabled **NA** when Remote Modem=ASMi–31
RLB Enable	Controls the activation of a remote loopback **Enabled** (checked) Loopback activation enabled **Disabled** (unchecked) Loopback activation disabled **NA** when Remote Modem=ASMi–31

BERT Parameters

Note *BERT parameters are available only for HS channel and HS–Q/N ports.*

➤ **To view or edit the BERT Parameters:**

1. Select the required port.
2. From the **Configuration** menu, select **Port Parameters** followed by **BERT Param…**

   The BERT Parameters dialog box appears.

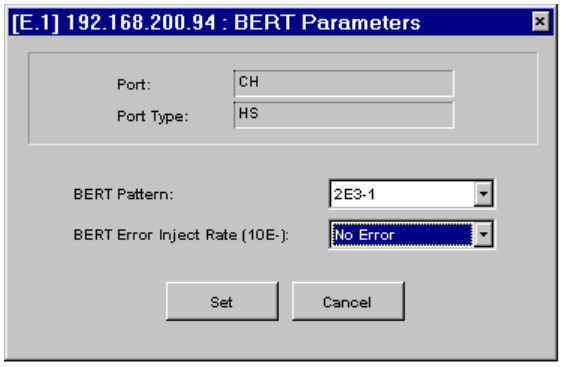


Figure 27. BERT Parameters Dialog Box

Table 25. BERT Parameters

Parameter	Possible Values / Remarks
Port	The selected port **CH, External–1..External–4**
Port Type	Type of the selected port **HS**
BERT Pattern	The BERT pattern For HS CH: **2E3-1, 2E4-1, 2E5-1, 2E6-1, 2E7-1, 511, 2E10-1, 2047, 2E15-1, 2E17-1, 2E18-1, 2E20-1, QRSS, 2E21-1, 2E22-1, 2E23-1, 2E25-1, 2E28-1, 2E29-1, 2E31-1, 2E32-1** For HS card ports: **511, 2047, 2E15-1, 2E20-1, QRSS, 2E23-1, RJ011, Alternate, Mark, Space**
BERT Error Inject Rate (10E-)	The rate of BERT injection For HS CH: **No Error, 1, 2, 3, 4, 5, 6, 7** For HS card ports: **Single**

Port User Information

The **User Information** command enables you to view and edit the user information of the selected port.

➤ **To view or edit the port user information:**

1. Select the required port.
2. From the **Configuration** menu, select **User Info**…

   The Port User Info dialog box appears.

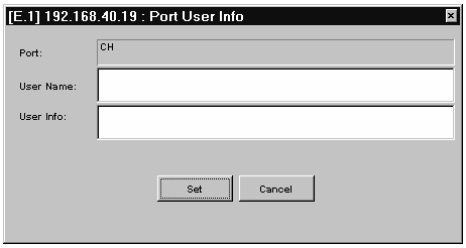


Figure 28. Port User Info Dialog Box

Table 26. Port Software Configuration - Common Parameters

Parameter	Possible Values / Remarks
Port	The selected port **Main E1/T1, SUB E1/T1, CH, External-1..External–N, Internal-1..Internal–N**
Card Type	The type of card
User Name	**A string of 15 characters**
User Info	**A string of 70 characters**

FCD–E1/T1/M

Agent Operations

This section explains the operations that are performed in the Agent Configuration Modes of the FCD-E1/M and FCD-T1/M.

8. FCD Configuration - Agent View

The Agent Mode displays the current operating parameters. This data includes system information (hardware and software configurations), operating status, card and port configuration values. The data displayed in the Agent Mode may be used for comparison and analysis when adjusting parameters in the Edit Configuration Mode.

Diagnostics testing can also be performed at the management station in the Agent Mode. In addition, active alarm status and test status of all installed programmed cards can be monitored through status lines appearing on the screen.

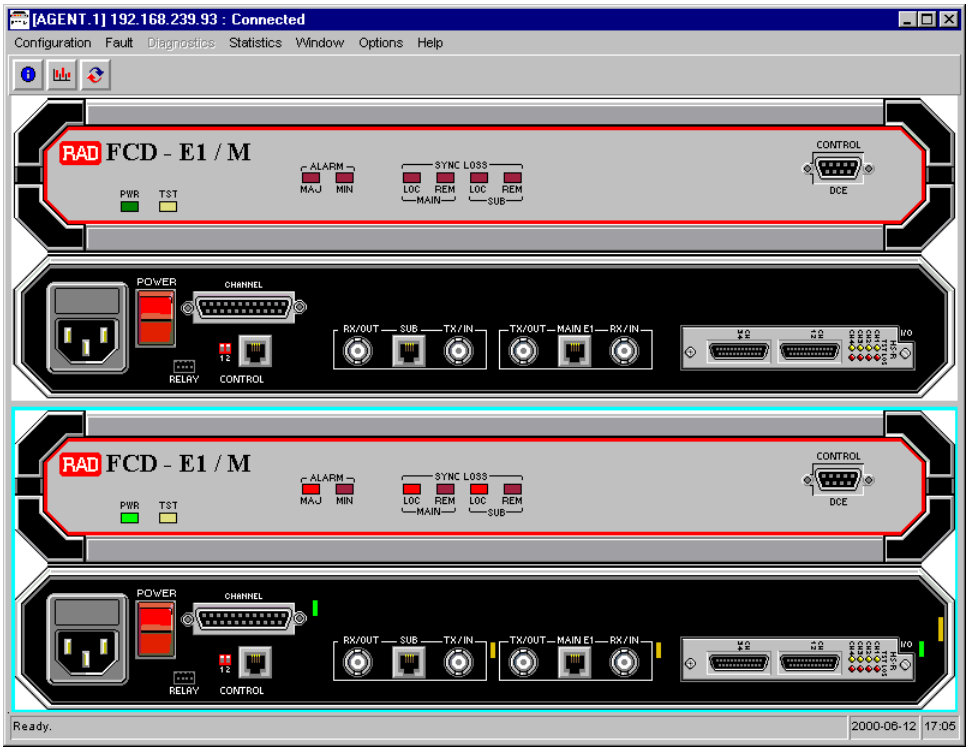


Figure 31. FCD E1/M Agent View Agent Mode (Bottom) Edit Mode (Top)

Table 27 lists the different management options for the system level.

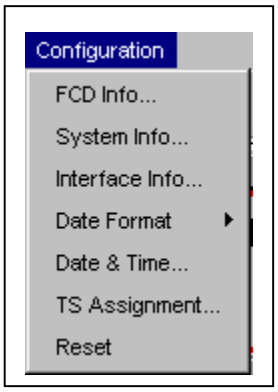


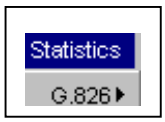
Table 27. System Management Options

Tasks – Configuration	Dialog Box and Parameter Location	Path
Displaying FCD timing information	FCD Information dialog box (Figure 32, page 43)	Configuration →FCD Info…
Displaying system information	System Information dialog box (Figure 33, page 45)	Configuration →System Info…
Displaying interface information	Interface Information dialog box (Figure 34, page 46)	Configuration →Interface Info…
Setting Date & Time	Date and Time Setup dialog box (Figure 36, page 47)	Configuration →Date & Time…
Displaying Time Slot Assignments	TS Assignment dialog box (Figure 37, page 48)	Configuration →TS Assignment…
Resetting the FCD	See page 50	Configuration →Reset…

Tasks – Fault	Dialog Box and Parameter Location	Path
Displaying all FCD alarms	FCD All Active Alarm List (Figure 39, page 51)	Fault →Alarms →List →All…
Displaying FCD system level alarms	FCD Active Alarm List (Figure 40, page 52)	Fault →Alarms →List →System…
Setting alarm severity level	Alarms Severity dialog box (Figure 41, page 53)	Fault →Alarms →Configuration → Severity …
Defining alarm attributes	Alarm Attributes dialog box (Figure 42, page 54)	Fault →Alarms →Configuration → Attributes…
Defining scope of alarm reports	Alarm Report dialog box (Figure 44, page 56)	Fault →Alarms →Configuration → Reports…
Diplaying the history log	All Buffer Alarms dialog box (Figure 45, page 57)	Fault →History Log →→List…
Displaying self test results	Self Test Results dialog box (Figure 46, page 58)	Fault →Self Test…

Table 27. System Management Options (Cont.)

Tasks – Options	Dialog Box and Parameter Location	Path
Defining the manager list	Manager List dialog box (Figure 47, page 58)	Options →Manager List…
Tasks – Statistics	**Dialog Box and Parameter Location**	**Path**
Displaying G.826 Statistics	G.826 Current Data dialog box (Figure 48, page 59)	Statistics →G.826 →G.826 Data…
Tasks – Window	**Dialog Box and Parameter Location**	**Path**
Closing/displaying Agent view	See page 12	Window →Agent View



Viewing FCD Agent Configuration

➤ **To view the current FCD configuration:**

- From the **Configuration** menu, select **FCD Info...**

Or

- Click the shortcut key on the toolbar .

The FCD Information dialog box appears.

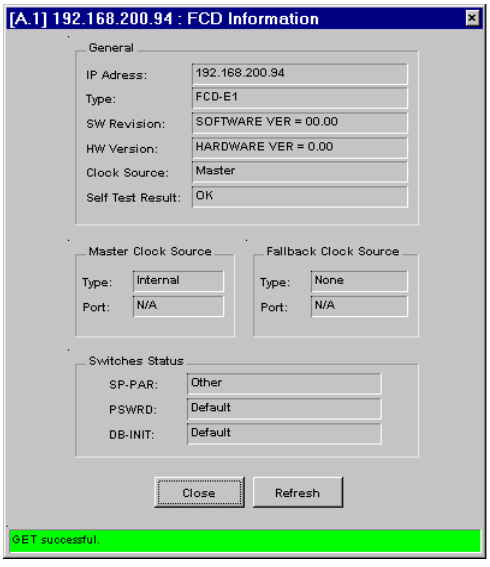


Figure 32. FCD Information

Table 28. FCD Information Parameters

Parameter	Possible Values / Remarks
General	
IP Address	Address of the selected WAN agent (double-clicked in the WAN submap)
Type	The type of WAN agent **FCD-E1/E1, FCD-E1/T1**
SW Revision	The Agent software version
HW Version	The Agent hardware version
Clock Source	Source of the system clock **Master**, **Fallback, Internal**
Self Test Result	**OK, Failed**
Master Clock Source	
Type	Main source for FCD timing **Internal, Rx Clock**
Port	The port through which the master clock signal is received by FCD. This parameter is relevant only when the master clock source type is Rx Clock **Main E1/T1**, **SUB E1/T1, CH, External-1..External-4** (HS cards only)
Fallback Clock Source	
Type	Alternate source for FCD timing, to be used in case the master clock fails **Rx Clock, None**
Port	The port through which the fallback clock signal is received by FCD **Main E1/T1**, **SUB E1/T1**, **CH, External-1..External-4** This parameter is relevant only when the Master Clock Source Type is Rx Clock
Switches Status	
SP-PAR	Source of the supervisory port parameters **Default = 1** **Other = 0**
PSWRD	Source of the password and management address (node number) of the supervisory port **Default = 1** **User Selected = 0**
DB-INIT	This parameter determines which FCD configuration will be loaded after FCD is turned off for a short time and then turned on again **Default = 1** **NVRAM = 0**

Setting FCD Agent System Information

The **System Info** command displays physical information about the selected FCD.

➤ **To update the system information:**

1. Select the Agent by clicking on the frame in the Agent View area.
   A light blue frame indicates that it is selected.
2. From the **Configuration** menu, select **System Info...**
   The System Information dialog box appears.
3. Type the required changes. You may update, **Name**, **Contact** and **Location**.
4. Click **Set** to implement the changes.

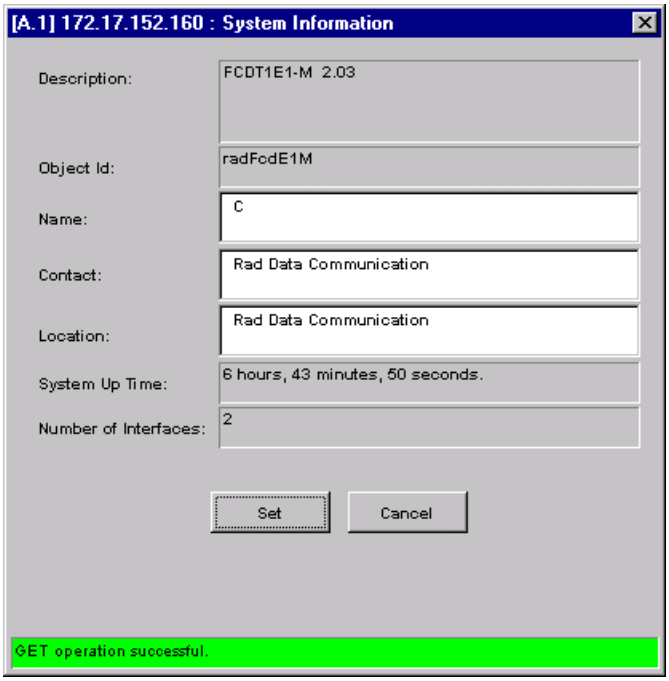


Figure 33. FCD System Information

Displaying FCD Agent Interface Information

The **Interface Info** command displays information about FCD connection to the management station.

➤ **To view FCD interface information:**

1. Select the Agent by clicking on the frame in the Agent View area.
   A light blue frame indicates that it is selected.
2. From the **Configuration** menu, select **Interface Info...**
   The Interface Info dialog box appears.

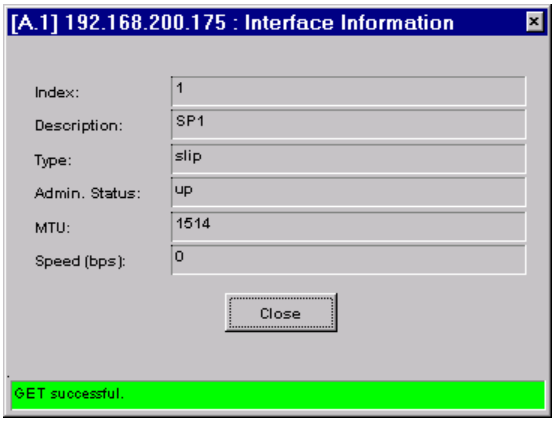


Figure 34. FCD Interface Information

Setting the Agent Date and Time

You can set the current FCD date and time.

➤ **To set the date's display format:**

1. Select the Agent by clicking on the frame in the Agent View area.

   A light blue frame indicates that it is selected.

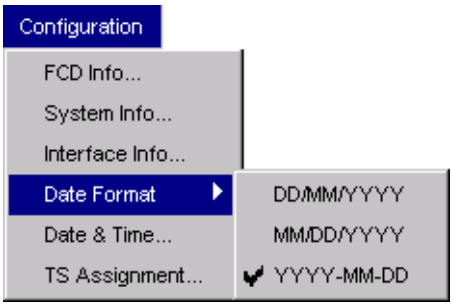


Figure 35. Selecting Date Format

   There are three different display formats for the date: European (DD/MM/YYYY), American (MM/DD/YYYY) or (YYYY-MM-DD).

2. From the **Configuration** Menu, select **Date Format** followed by the desired format, where DD = day, MM = month and YYYY = year.

   The selected format is indicated by a check mark.

➤ **To set the date and time:**

- From the **Configuration** menu, select **Date & Time..**.

The Date & Time Setup dialog box appears.

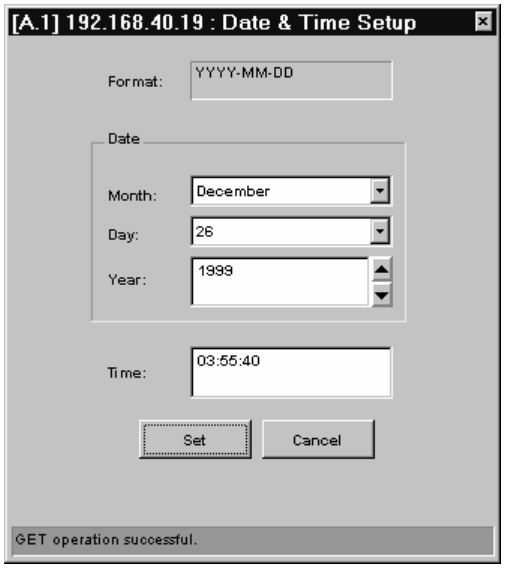


Figure 36. Agent Date And Time

This dialog box displays the agent's internal date and time settings. The date format can be either European or American or YYYY-MM-DD.

Table 29. Agent Date and Time

Parameter	Possible Values / Remarks
Format	European format (**DD/MM/YYYY**), American format (**MM/DD/YYYY**) or (**YYYY-MM-DD**) This parameter is read-only
Date	
Month	Month of the year
Day	Day of the week
Year	Year
Time	Time in HH:MM:SS format where HH=Hour, MM=minutes, SS=seconds

Displaying Time Slot Routing Connections

In the Agent Mode, you can view the actual time slot assignments for all ports but you cannot connect or disconnect the time slots. As in the Edit Configuration Mode, you may display the TS assignments at the port level and at the TS level.

Time Slot Assignment Window - Port Level

The TS Port level is the initial entry level of the time slot assignment function. It provides a global view of FCD TS connections.

➤ **To display the Port level TS Assignment window:**

1. Select the Agent by clicking on the frame in the Agent View area.

   A light blue frame indicates that it is selected.

2. From the **Configuration** menu, select **TS Assignment**…

   The TS Assignment window appears. This window displays the time slot connections for FCD ports.

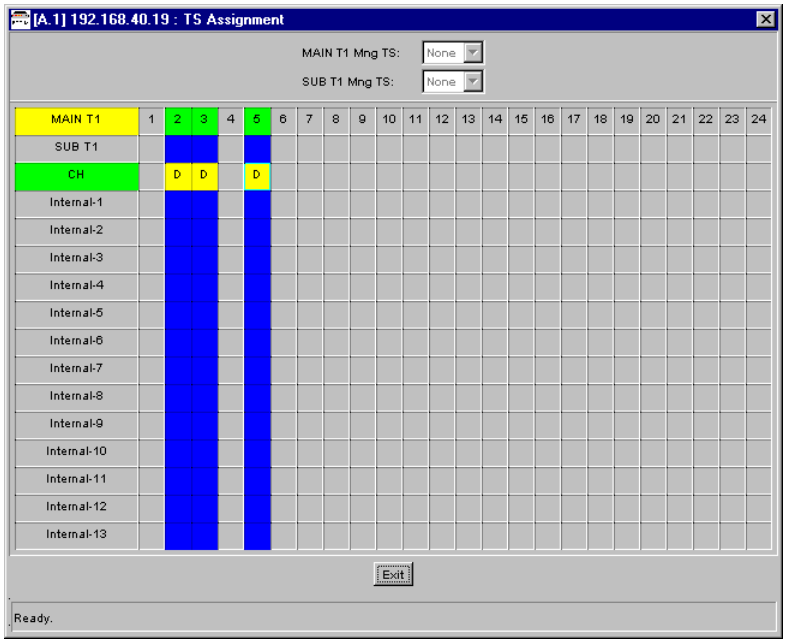


Figure 37. TS Assignment Window

A rectangular grid displays the time slot assignments. Each row and each column represents the possible connections of a specific port.

Since all ports are connected to MAIN E1/T1 port, the top row shows the TS assignments of the MAIN E1/T1. For the MAIN E1, there are 31 Time Slots. For the MAIN T1, there are 24 Time Slots.

Colors, letters and guides indicate information about the time slots and ports represented in the grid. Their meanings are described in the following pages.

TS Color Codes

Since each TS has only one type and can be connected to only one port, each TS column can have only one cell with a letter inside. Both connection cells and port indicator cells use color codes to relay connection information.

Table 30. TS Color Codes

Color	Remarks
2 **Green + number**	TS in this port is connected and is not being used for Management.
5 **Gray + number**	TS in this port is available for connection, but currently has no TS connection.
16 **Blue + number**	TS in this port has no connections and cannot be TS connected.
16 **Red + number**	There is an invalid connection.
1 **White + number**	TSs in this port is connected and being used for Management.

Table 31. Inside Cells Color Codes

Color	Remarks
Gray empty	Cell's port has no current TS connections but can be TS connected.
Blue empty	Cell's port has a TS connections.
Red empty	There is an invalid connection.
White empty	Cell's port is being used for Management.
Yellow + letter	Cell's port has at valid TS connection of type indicated by letter.

Table 32. Letter Codes

Color	Remarks
V	Voice
D	Data

Table 33. Port Name Color Codes

Color	Remarks
Green	All of the port's connectable TS connections are connected. Valid for the MAIN or SUB ports only. CH ports are green only after the first TS has been assigned.
Gray	None of the port's connectable TSs are being used.
Red	This occurs when one of the port's cells is red.
Yellow	Some of the TSs are connected. Valid for the MAIN or SUB ports only.

Selecting a Port Cell

Select a port cell by clicking on it. A bold border surrounds the selected port indicator cell. This enables you to identify the connected port more easily. The

border remains fixed on the selected cell, even if you move the cursor elsewhere on the screen

Figure 38. Selected Cell

Displaying the Rate of HS cells

The rate of a HS port can be displayed by placing cursor over the HS port title cells.

Exiting the TS Assignment Window

➤ **To exit the TS Assignment window:**

- Double-click the control box in the upper left corner of the window.

Resetting the FCD

➤ **To reset the FCD:**

- From the **Configuration** menu, select Reset.

  A message appears warning that resetting the device will change system configuration. Click **OK** to confirm reset operation.

9. Agent Fault Operations

The **Fault** menu contains options for displaying and masking active FCD alarms, viewing a history log of alarms and viewing FCD self-test results.

Displaying All Active Alarms

The **List>All...** command displays a list of active unmasked alarms for the selected FCD, including system (agent) and port alarms.

➤ **To view all active FCD alarms:**

- From the **Fault** menu, select **Alarms** followed by **List** and **All**

  The FCD All Active Alarm List appears.

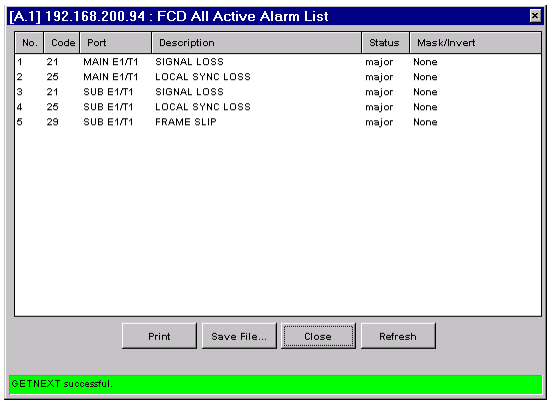


Figure 39. FCD All Active Alarm List

The FCD All Active Alarm List displays active system and port alarms. If the list is long, you can click the scroll bar or scroll arrows to display more entries.

Table 34. FCD All Active Alarm List

Parameter	Possible Values / Remarks
No.	Index number of the alarm
Code	Code which indicates a certain alarm description
Port	Port number in which the alarm originated. This parameter is applicable only for port alarms
Description	Description of the alarm
Status	State of the alarm **Minor, major**
Mask/Invert	**Invert**, **Mask, None**

Displaying System Level Alarms

The **List>System Level** command displays a list of active unmasked alarms for the selected FCD only.

➤ **To view all active FCD system level alarms:**

- From the **Fault** menu, select **Alarms** followed by **List** and **System Level**.

  The FCD Active Alarm List appears.

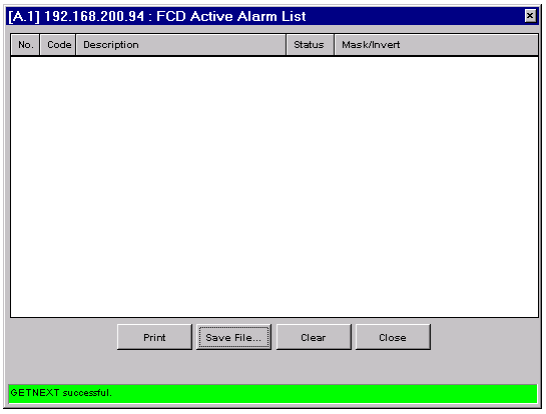


Figure 40. FCD Active Alarm List

The FCD Active List displays active system alarms. If the list is long, you can click the scroll bar or scroll arrows to display more entries.

Table 35. FCD Active List

Parameter	Possible Values / Remarks
No.	Index number of the alarm.
Code	Code which indicates a certain alarm description.
Description	Description of the alarm.
Status	State of the alarm **Minor, Major**
Mask/Invert	**Invert**, **Mask, None**

Clearing FCD Agent Alarms

You can clear only system level alarms or all active alarms from the system database.

➤ **To clear active system level alarms:**

- From the **Fault** menu, select **Alarms** followed by **Clear**.

  The system does not request confirmation for this operation.

➤ **To clear all active alarms:**

- From the **Fault** menu, select **Alarms** followed by **Clear All**.

  The system does not request confirmation for this operation.

Displaying Alarms Configuration

The **Alarms> Configuration** command allows the user to set Alarm Severity, Alarm Attributes and Alarm Report parameters.

Setting Alarm Severity

Using the **Severity** command, you can set the level of severity for the various types of alarms.

➤ **To set severity levels for alarms:**

1. From the **Fault** menu, select **Alarms** followed by **Configuration** and then **Severity...**

   The Alarms Severity dialog box appears displaying a list of alarms, their types and a severity level.

2. Select a Severity level and click **Set.**

   The new severity level appears in the Alarms Severity dialog box.

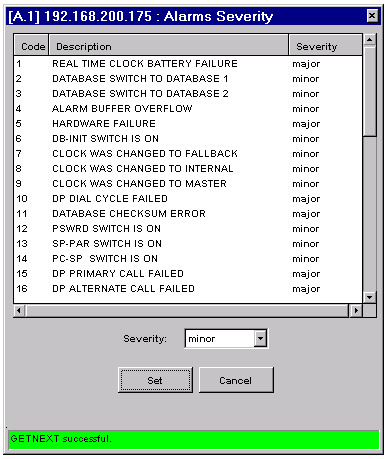

[A.1] 192.168.200.175 : Alarms Severity
Code
Description
Severity
1 REAL TIME CLOCK BATTERY FAILURE major
2 DATABASE SWITCH TO DATABASE 1 minor
3 DATABASE SWITCH TO DATABASE 2 minor
4 ALARM BUFFER OVERFLOW minor
5 HARDWARE FAILURE major
6 DB-INIT SWITCH IS ON minor
7 CLOCK WAS CHANGED TO FALLBACK minor
8 CLOCK WAS CHANGED TO INTERNAL minor
9 CLOCK WAS CHANGED TO MASTER minor
10 DP DIAL CYCLE FAILED major
11 DATABASE CHECKSUM ERROR major
12 PSWRD SWITCH IS ON minor
13 SP-PAR SWITCH IS ON minor
14 PC-SP SWITCH IS ON minor
15 DP PRIMARY CALL FAILED major
16 DP ALTERNATE CALL FAILED major
Severity:
minor
Set
Cancel
GETNEXT successful.

Figure 41. Alarms Severity Dialog Box

Table 36. Alarms Severity Parameters

Parameter	Possible Values / Remarks
Code	Identifier of the alarm
Description	Brief description of the alarm
Severity	The effect level of the alarm **Minor, Major**

Setting Alarm Attributes

Using the **Attributes** command, you can set the period of time for which alarm filters are valid, and the attributes for the selected FCD alarms. The defined attributes pertain to specific alarm codes, slots and ports.

➤ **To view alarm attributes:**

- From the **Fault** menu, select **Alarms** followed by **Configuration** and then **Attributes...**

The Alarm Attributes dialog box appears displaying a list of FCD alarms and their attributes. You can display alarms at three different levels: All, System Only and Port.

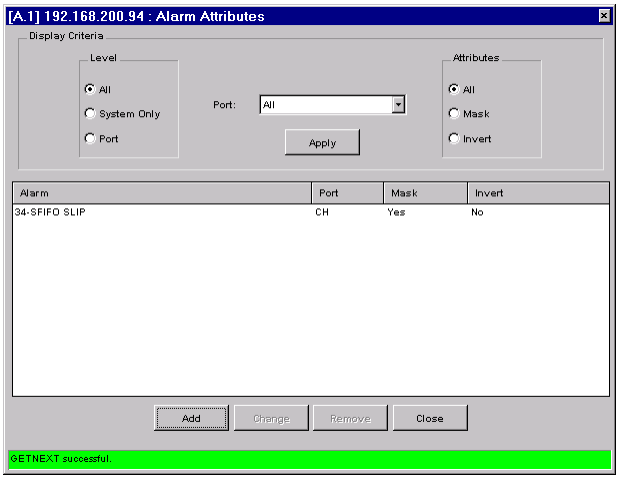


Figure 42. Alarm Attributes Dialog Box

Table 37. Alarm Attributes Parameters

Parameter	Possible Values / Remarks
Alarm	Identifier of the alarm that retains the attributes in this list and a brief description of the alarm.
Port	Port of the selected slot on which the attributes will be activated (if relevant) **NA**, **All**, **external-1** to **external-6**, **Control DCE (SP), Control DTE (DP), MAIN E1/T1, Sub E1/T1,** and **CH**
Mask	**Yes , No** A masked alarm: • Does not affect the operational status of FCD. • Is not logged in the alarm buffer. • Does not generate a trap • Does not cause a LED on FCD panel to turn on. • Appears in the Active Alarm List. • Is always saved. The mask will not be lost if FCD is turned off.
Invert	Alarm that retains an inverted status **Yes, No** For example, suppose that you don't want to see an alarm in the Alarm list all the time, but you want to know when it was fixed. The Invert status hides the alarm, but then "activates" it and informs you when it is fixed. • An inverted alarm cannot be masked by the **Mask** function • An inverted alarm is always saved. The inversion will not be lost if FCD is turned off

➤ **To add a new set of alarm attributes:**

1. In the Alarm Attributes dialog box, click **Add**.

The Add Alarm Attributes dialog box appears.

2. In the Add Alarm Attributes dialog box, set the attribute parameters as required.
3. Click **Set**.

   The new alarm attributes configuration is downloaded to the selected FCD, and also appears in the Alarm Attributes list.

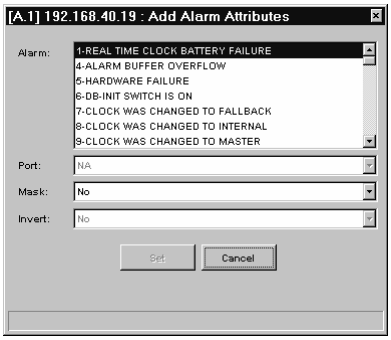


Figure 43. Add Attributes Dialog Box

➤ **To change an existing alarm attributes configuration**

1. In the Alarm Attributes dialog box, select an entry and then click **Change**.

   The Change Alarm Attributes dialog box appears. The parameters in the Change Attributes dialog box are identical to the parameters in the Add Alarm Attributes dialog box. You may change the Mask and Invert parameters

2. Click **Set**.

   The changed alarm attributes configuration is downloaded to the selected FCD, and also appears in the Alarm Attributes list.

➤ **To remove alarm attributes from the existing alarm attributes configuration**

- In the Alarm Attributes dialog box, select an entry and then click **Remove**.

Defining Scope of Alarm Reports

Using the Reports command, you can define the scope, type and severity of alarm reports that you will receive at the network management station.

➤ **To define an alarm report:**

1. From the **Fault** menu, select **Alarms** followed by **Configuration** and then **Reports**.

   The Alarm Report dialog box appears where you can set the severity criteria for reporting alarms.

2. Set the severity levels in each field.
3. Click **Set**.

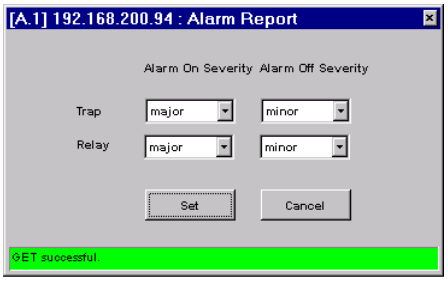


Figure 44. Alarm Report Dialog Box

Table 38 Alarm Report Parameters

Parameter	Possible Values / Remarks
Trap	Defines whether you want to receive traps for all alarms or for only those alarms of at least a certain severity **Minor, Major** **Alarm On Severity:** Minimum level of severity required for sending a trap to the network management station. Trap severity must be equal or higher than buffer severity **Alarm Off Severity:** Maximum level of severity allowed for a trap not to be sent to the network management station
Relay	Define whether you want to receive the beep sound of the Relay contact for all alarms or for only those alarms of at least a certain severity **Major, Minor** **Alarm On Severity:** Minimum level of severity required for sending a beep sound to the network management station **Alarm Off Severity:** Maximum level of severity allowed for a trap not to be sent to the network management station

Displaying the History Log

The history log contains all the alarms listed in FCD alarm buffer in chronological order of occurrence. The buffer's capacity is 256 alarms. You may view and print its contents.

➤ **To display all the alarms in FCD alarm buffer:**

- From the **Fault** menu, select **History Log** followed by **List...**

  The Alarm Buffer List appears.

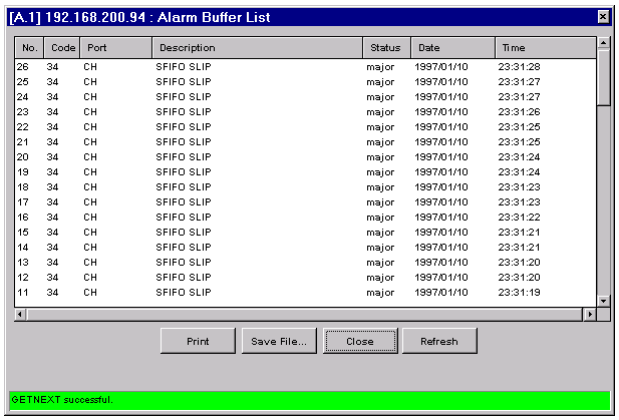

[A.1] 192.168.200.94 : Alarm Buffer List
No. Code Port Description Status Date Time
26 34 CH SFIFO SLIP major 1997/01/10 23:31:28
25 34 CH SFIFO SLIP major 1997/01/10 23:31:27
24 34 CH SFIFO SLIP major 1997/01/10 23:31:27
23 34 CH SFIFO SLIP major 1997/01/10 23:31:26
22 34 CH SFIFO SLIP major 1997/01/10 23:31:25
21 34 CH SFIFO SLIP major 1997/01/10 23:31:25
20 34 CH SFIFO SLIP major 1997/01/10 23:31:24
19 34 CH SFIFO SLIP major 1997/01/10 23:31:24
18 34 CH SFIFO SLIP major 1997/01/10 23:31:23
17 34 CH SFIFO SLIP major 1997/01/10 23:31:23
16 34 CH SFIFO SLIP major 1997/01/10 23:31:22
15 34 CH SFIFO SLIP major 1997/01/10 23:31:21
14 34 CH SFIFO SLIP major 1997/01/10 23:31:21
13 34 CH SFIFO SLIP major 1997/01/10 23:31:20
12 34 CH SFIFO SLIP major 1997/01/10 23:31:20
11 34 CH SFIFO SLIP major 1997/01/10 23:31:19
Print
Save File...
Close
Refresh
GETNEXT successful.

Figure 45. Alarm Buffer List

The Alarm Buffer List displays all the unmasked recorded alarms from system, card and port levels since the last time the log was recorded. If the list is long, you can click the scroll bar or scroll arrows to display more entries.

Table 39. Alarm Buffer List

Parameter	Possible Values /Remarks
No.	Index number of the alarm
Code	Code which indicates a certain alarm description
Port	Port number in which the alarm originated. This parameter is applicable only for port alarms
Description	Description of the alarm
Status	The status of the alarm **Major**, **Minor** and **Off**
Date	Date when the alarm occurred
Time	Time when the alarm occurred

➤ **To clear all the alarms from FCD alarm buffer:**

- From the **Fault** menu, select **History Log** and **Clear**.

  The system does not request confirmation for this operation.

Displaying FCD Agent Self Test Results

When powered, the FCD runs a self-test to detect hardware failures and to provide circuit-level diagnostics data. The **Self Test** command displays the results of the selected FCD self-tests.

➤ **To display FCD self-test results:**

- From the **Fault** menu, select **Self Test...**

  The Self Test Results dialog box appears.

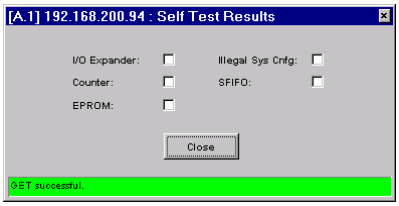


Figure 46. FCD Agent Self test Results

This dialog box lists all possible detectable agent failures and the status of each failure. A failure in the parameter is indicated by a checked box [X]. An unchecked box indicates that no failures were detected.

10. Agent Options Menu

The Manager List

The Manager List displays addresses of management stations that can receive FCD traps. To receive an agent's traps, the management station must type its own IP address in the Manager List. The list may contain up to ten entries.

➤ **To display the Manager List:**

- From the **Options** menu, select **Manager List...**

  The Manager List dialog box appears.

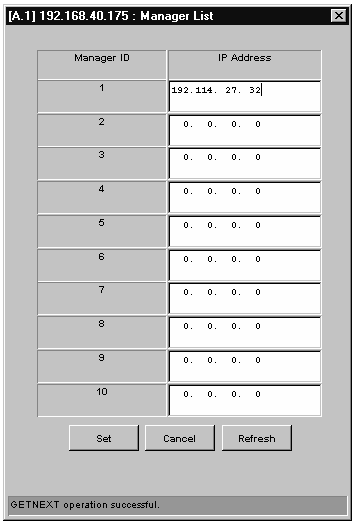


Figure 47. Manager List

Table 40. Manager List

Parameter	Possible Values / Remarks
Manager ID	Index number in the list of the management station.
IP Address	IP address of the management station.

➤ **To update the Manager List:**

1. Enter/change the IP addresses in the Manager List dialog box.
2. Click **Set** to display the updated IP Address in the Manager List.

➤ **To view if any other changes were made to the Manager List while it is open:**

- Click **Refresh**.

11. Agent Statistics Menu

The Statistics menu enable you to display G.826 Data for the MAIN E1/T1 links.

➤ **To display G.826 current Data:**

- From the **Statistics** menu, select **G.836 Data...**

The G.825 Current Data dialog box appears.

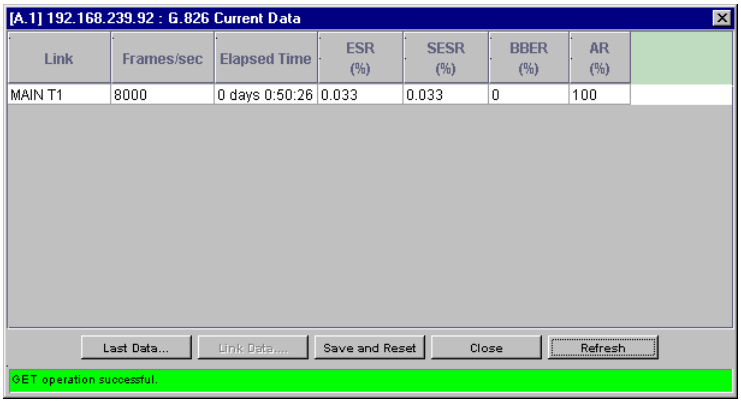


Figure 48. G.826 Current Data

➤ **To display the last data for a specific link:**

- Select an entry in the G.826 Current Data list and click **Last Data…**

The Link Current Data dialog box appears.

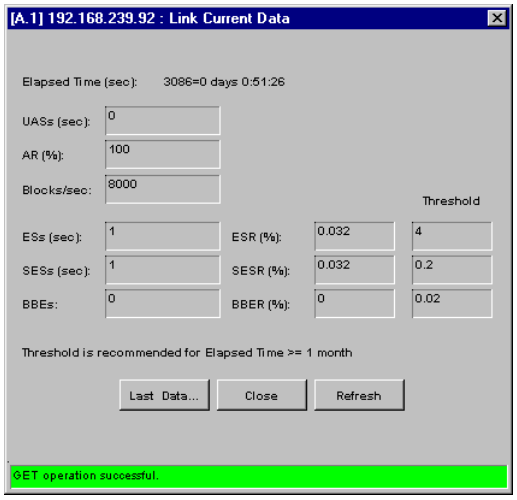


Figure 49. Link Current Data

12. Agent Window

➤ **To close the Agent view of the FCD Level window:**

- From the **Window** menu, select **Agent View**

Or

- Click the shortcut key on the toolbar .

The Edit Configuration view (only) appears on the screen.

13. Polling the Agent

RADview automatically polls the agent periodically. The user can also poll the agent manually. This is useful when you want to see the changes you've made to the agent's configuration immediately after performing an Update in the Edit Configuration.

➤ **To manually poll the agent:**

- From the **Options** menu, select **Poll**.

14. Agent Configuration Card View Operations

In agent configuration view, you can view a card's configuration parameters.

➤ **To select a card:**

- Click the desired card in the Agent Configuration View.

The selected card is outlined by a light blue frame.

Table 41 lists the different management options for the card level.

Note *Card Level Configuration menu options are dependent upon the selected card.*

- *If a card is selected, the **Card Info** and **Zoom** options are enabled.*
- *If the Card View is active, the **Configuration** menu contains only the **Card Info** option.*

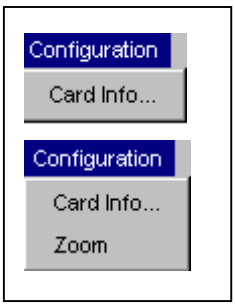


Table 41. Card Level Management Options

Tasks – Configuration	Dialog Box and Parameter Location	Path
Displaying zoomed card view	Zoomed Card View (Figure 50, page 61)	Configuration ➥Zoom
Displaying card information	Card Information dialog box (Figure 51, page 61)	Configuration ➥Card Info…

Zooming to a Card View

You may display a more detailed view of the cards, including individual ports.

➤ **To open the card view of a specific card:**

- From the **Configuration** menu, select **Zoom**.

Or

- Click the shortcut key on the toolbar

.

The selected card is displayed, as in the following example:

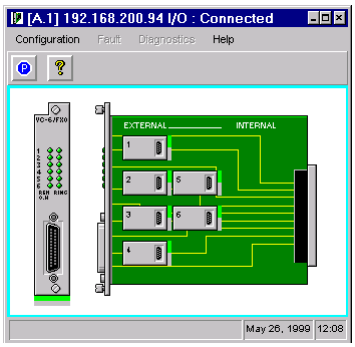


Figure 50. Sample Zoomed Card

Note *You cannot zoom in on unknown cards, empty slots and offline FCD–M cards.*

When a zoomed card window is open, positioning the mouse over the tool bar on the main window will cause the main window to appear on top of the zoomed window.

➤ **To close the card view window and return to the Agent View:**

- Double-click the upper-left hand corner of the Card View window.

Displaying Card Information

➤ **To display information about the selected card:**

- Select the card, then select **Card Info** from the **Configuration** menu.

The Card Information dialog box appears. All information in this dialog box is read-only.

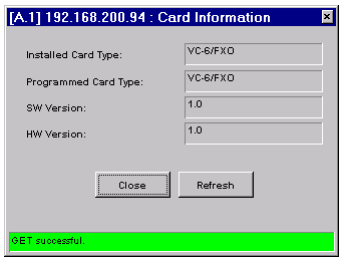


Figure 51. Card Information Dialog Box

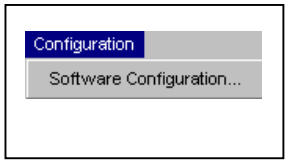
Table 42. Card Information Parameters

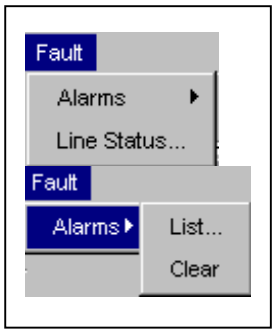
Parameter	Possible Values/ Remarks
Installed Card Type	**Unknown, HS–Q, HS–Q/N, HS–U/I, HS–R, HS–S, HS–U/1, VC–6/E&M, VC–6/FXO, VC–6/FXS**
Programmed Card Type	
SW Version	The current software version
HW Version	The current hardware version

15. Agent Port Operations

Table 43. Port Level Management Options

Tasks – Configuration	Dialog Box and Parameter Location	Path
Viewing port information	Port Information dialog box (Figure 52, page 63)	Configuration →Port Info…
Viewing software configuration	Sofware Configuration dialog box (Figure 53, page 64)	Configuration →Software Configuration…
Tasks – Fault	**Dialog Box and Parameter Location**	**Path**
Displaying port alarms	Port Active Alarm List (Figure 70, page 90)	Fault →Alarms →List…
Viewing failures on port	Line Status dialog nox (Figure 71, page 91)	Fault →Line Status…
Clearing Port alarms	See page 91	Fault →Alarms →Clear
Tasks – Diagnostics	**Dialog Box and Parameter Location**	**Path**
Running diagnostic tests	Por Tests dialog box (Figure 72, page 92)	Diagnostics →Test…





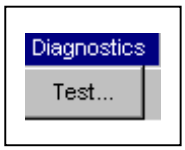


Table 43. Port Level Management Options (Cont.)

Tasks – Statistics	Dialog Box and Parameter Location	Path
Setting polling interval	Polling Interval dialog box (Figure 75, page 95)	Statistics →Port Performance →Polling Interval…
Displaying current data statistics in table or graph	Curent Data dialog box (Figure 77, page 97)	Statistics →Port Performance → Current Table…
	Curent Graph dialog box See page 98	Statistics →Port Performance →Current Graph…
Displaying intervals data statistics in table or graph	Interval Data dialog box (Figure 78, page 98)	Statistics →Port Performance →Interval Table…
	Interval Graph dialog box See page 98	Statistics →Intervals Graph…
Viewing FDL Rx/Tx messages	Port FDL Message dialog box Figure 80, page 99)	Statistics →FDL Message →FDL Rx Messsage
		Statistics →FDL Message →FDL Tx Messsage

Displaying Agent Port Information

The Information command displays hardware configuration information and status data of the selected port. ➥

➤ **To display the port information about a specific port:**

1. Select the desired port.
2. From the **Configuration** menu, select **Port Parameters** followed by **Information...**

   The Port Information dialog box appears. The information in this dialog box is read-only.

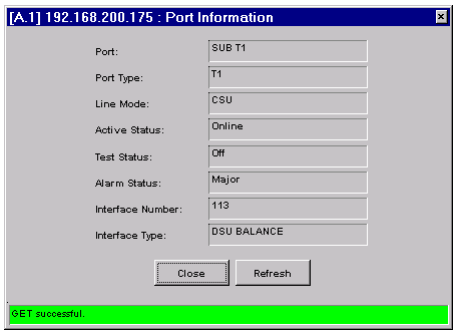


Figure 52. Port Information

Table 44. Port Information

Parameter	Possible Values / Remarks
Port	Type and number of the selected port **MAIN E1/T1**, **SUB E1/T1**, **CH**
Port Type	Type of the selected port **T1**, **T1-F, E1**, **E1-F, HS**
Line Mode	**CSU, DSU, NA**
Active Status	Operational status of the selected port **Not Used** - port is not connected according to the active configuration **Offline** - port is down (not working) **Online** - port is up (working) **Offline Redundancy** - port is down because it is redundant **Online Redundancy** - port is redundant but works as the active link
Test Status	**On** indicates that at least one test is running on the selected port **Off** indicates no testing.
Interface Number	Unique interface number assigned to the selected port **111, 113, 122**.
Interface Type	Unique hardware interface type for the selected port

Displaying Port Software Configuration

The Software Configuration command displays information about the software parameters of the selected port.

➤ **To display the software configuration information about a specific port:**

1. Select the port by clicking on it.

   A light blue frame indicates that it is selected.

2. From the **Configuration** menu, select **Port Parameters** followed by **Software Configuration...**

   The Port Software Configuration dialog box appears.

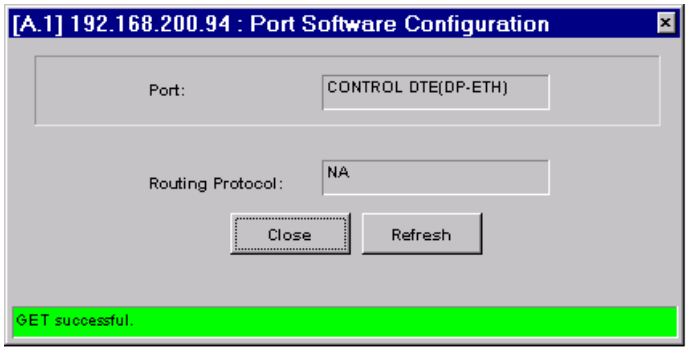


Figure 53. Sample Software Configuration Dialog Box

The Port Software Configuration dialog box consists of two parts. The upper part is common to all types of ports.

Table 45. Port Software Configuration

Parameter	Possible Values / Remarks
Port	The selected port **MAIN E1/T1, SUB E1/T1, CH1, CH2, CONTROL DCE (SP)** and **CONTROL DTE (DP)** for HS-Q: **External-1** to **External-4** for VC-6: **External-1** to **External-6**
Port Type	Type of the selected port **T1, T1-F, E1, E1-F, HS** This field is not displayed for SP and DP ports.
Card Type	**Unknown, HS–Q, HS–Q/N, HS–U/I, HS–R, HS–S, HS–U/1, VC–6/E&M, VC–6/FXO, VC–6/FXS**

Control Port Software Configuration

➤ **To display the software configuration of a Control DCE port:**

1. Select a SP - Supervisory Port.
2. From the **Configuration** menu, select **Port Parameters** followed by **Software Configuration...**

Or

3. Click the shortcut key on the toolbar .

The Port Software Configuration Dialog Box appears.

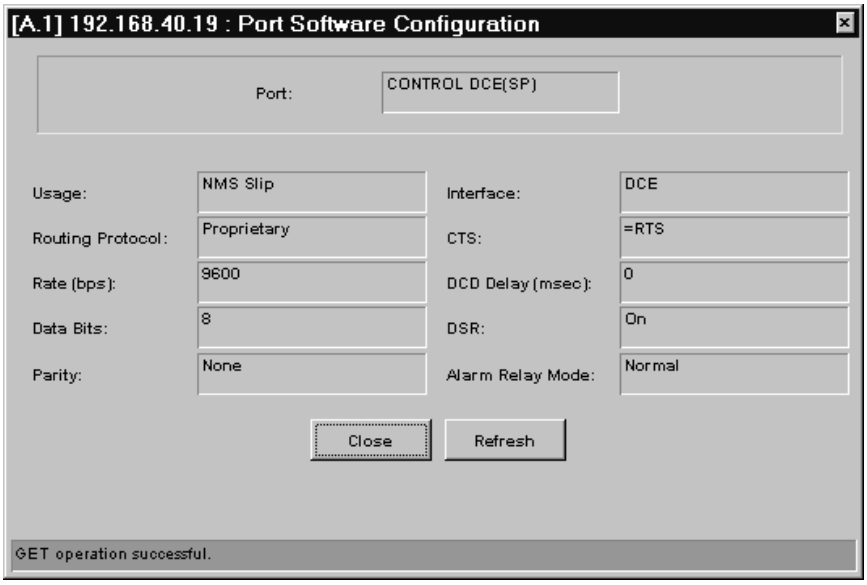


Figure 54. Control DCE (SP) Port Software Configuration

Table 46. DCE SP Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Usage	Function of the selected port **NMS Slip, NMS PPP, Agent Slip, Agent PPP**
Routing Protocol	Routing Protocol to be used **None, Proprietary, RIP2**
Rate (bps)	Operational speed, in bps, of the selected port. **Auto, 300**, **1200**, **2400**, **4800**, **9600, 19200, 38400, 57600**
Data Bits	Number of data bits in the word format transmitted through the selected port **7, 8**
Parity	Parity mode used by the selected port **None**, **Odd** and **Even**
Interface	Type of supervisory port interface **DCE** for direct connection to supervision terminal **DTE** for connection through a modem to supervision terminal
CTS	State of the CTS (Clear to Send) line in the selected port **On** – CTS is always on **=RTS** – CTS line follows the local RTS line
DCD Delay (msec)	Time delay between Data Carrier Detection (DCD) and the sending of the data if the interface type is DTE **0**, **10**, **50**, **100**, **200, 300**
DSR	State of the DSR line **On** – DSR line is continuously on **=DTR** -– DSR line tracks the DTR line
Alarm Relay Mode	**Normal, Invert**

➤ **To display software configuration of a Control DTE port:**

1. Select a Control DTE (DP) Port.
2. From the **Configuration** menu, select **Port Parameters** followed by **Software Configuration...**

Or

3. Click the shortcut key on the toolbar

.

The Port Software Configuration Dialog Box appears.

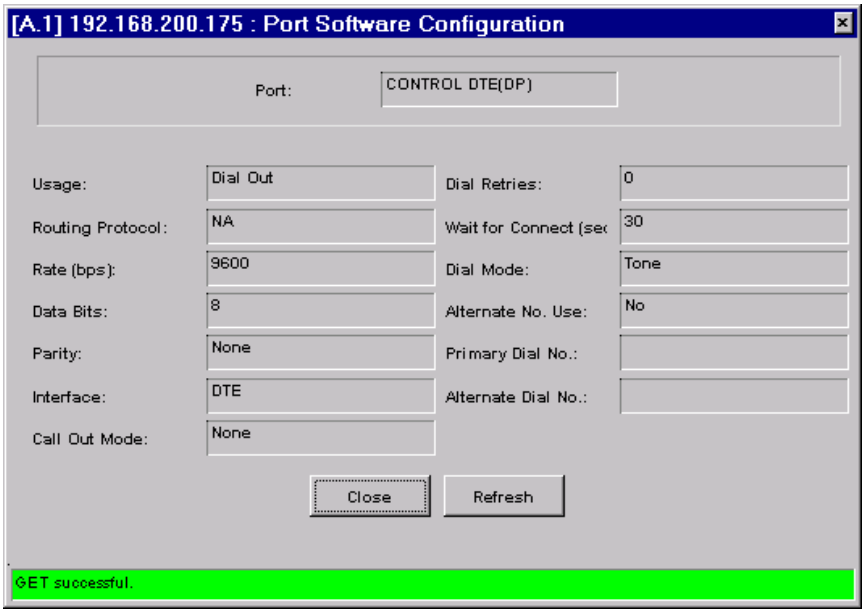


Figure 55. Control DTE (DP) Port Software Configuration Dialog Box

Table 47. Control DTE (DP) Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Usage	Function of the selected port **Dial Out**, **NMS Slip, NMS PPP, Agent Slip, Agent PPP**
Routing Protocol	Routing Protocol to be used **None, Proprietary, RIP2**
Rate (bps)	Operational speed, in bps, of the selected port. **300**, **1200**, **2400**, **4800**, **9600**, **19200, 38400, 57600**
Data Bits	Number of data bits in the word format transmitted through the selected port **7, 8**
Parity	Parity mode used by the selected port **None**, **Odd** and **Even**
Call Out Mode	Indicates when FCD–M will initiate a call **None, All, Major**
Dial Retries	Maximum number of retries to initiate a call **0..8**
Wait for Connect (sec)	Time required, in seconds, for connection when FCD–M initiates a call **30, 45, 60**
Dial Mode	Type of dialing. **Tone, Pulse**
Alternate No. Use	Indicates if Alternate No. is to be used **Yes, No**
Primary Dial No.	Number that FCD–M dials when it initiates a call **A maximum of 20 characters**

Alternate Dial No.	Alternate number that FCD–M dials if attempts to dial the Primary Dial Number are unsuccessful **A maximum of 20 characters**

➤ **To display software configuration of a Control DTE (DP-ETH) port:**

1. Select a DP-ETH - Dial Port.
2. From the **Configuration** menu, select **Port Parameters** followed by **Software Configuration...**

Or

3. Click the shortcut key on the toolbar

.

The Port Software Configuration Dialog Box appears.

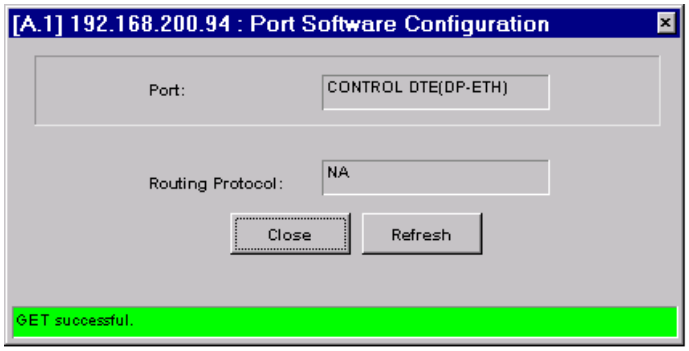


Figure 56. Control DTE (DP ETH) Port Software Configuration Dialog Box

Table 48. DCE SP Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Routing Protocol	Routing Protocol to be used **None, Proprietary, RIP2**

If the change causes a loss of communication with the management station, change management station parameters (rate, parity, etc.) to match the agent's port parameters.

The information presented in the second part of the Port Software Configuration dialog box depends on the type of port selected. The following pages include dialog box samples and explanations of the software configurations of the different ports.

MAIN T1, SUB T1 Software Configuration

The MAIN T1 port always exists. SUB T1 is optional. Either port can be of type T1-DSU or T1-CSU.

➤ **To display the software configuration of a T1 port:**

1. Select the required port.

2. From the **Configuration** menu, select **Port Parameters** followed by **Software Configuration...**

Or

3. Click the shortcut key on the toolbar

The Software Configuration Dialog Box for the T1 port appears.

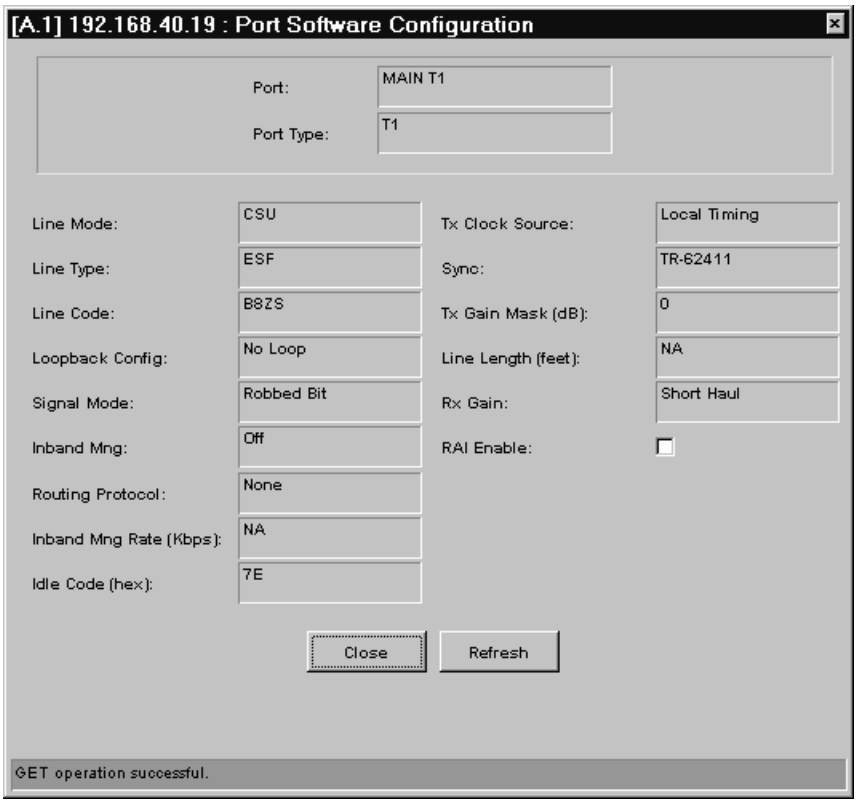


Figure 57. MAIN T1 Port Software Configuration

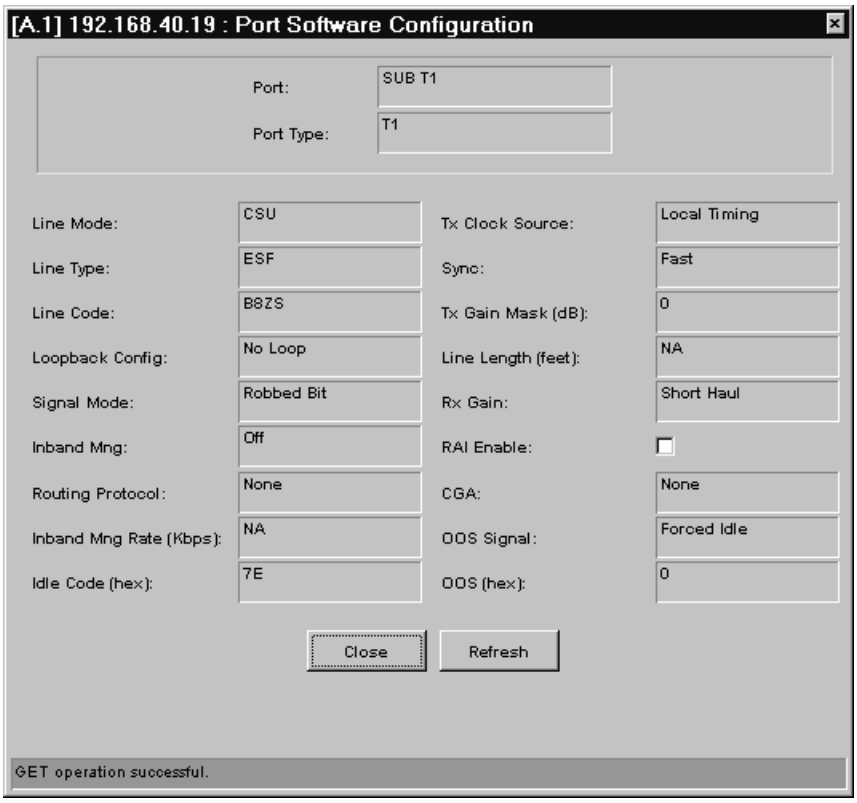


Figure 58. SUB T1 Port Software Configuration

Table 49. T1 Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Line Mode	Line mode for the selected port. This is only applicable for T1-CSU and T1-DSU ports **CSU, DSU, NA**
Line Type	Type of T1 line implementing the selected circuit. The type of circuit affects the number of frames that the circuit can carry. **ESF** (Extended Superframe DS1) – 24 frames per multiframe **D4** (AT&T D4 format DS1) – 12 frames per multiframe **Unframed**
Line Code	Line coding method used for zero suppression **B7** – B7ZS coding, Jammed Bit zero suppression. A pulse is forced in bit 8 of each 8-bit period of each channel. Therefore, only 7 bits per channel (1.344 Mbps) is available for data **B8ZS** – B8ZS coding. A specified pattern of normal bits and bipolar variations replaces a sequence of 8 zero bits. This option provides clear channel capability **Trans** – Transparent (AMI) coding. No zero suppression is present When Inband Mng=Dedicated TS, PPP or FR, do not set Line Code=B7, this will cause an error message when a sanity check is performed

Table 49. T1 Port Software Configuration Parameters (Cont.)

Parameter	Possible Values / Remarks
Loopback Config	Loopback configuration of the selected port **No Loop** - Not in loopback state **Payload Loop** – Received signal at this port is looped through the DXC. The signal is typically looped back for retransmission after passing through the agent's framing function **Line Loop** – Received signal at this port does not go through the agent (minimum penetration) but is looped back out **Other Loop** - Any loopback on the selected port that is undefined by the port's configuration
Signal Mode	Type of signaling transfer mode used by the selected card **Robbed Bit**
Inband Mng	Identifier of the inband management of the selected link **Off**, **FDL or TSO, Dedicated TS, Dedicated PPP, Dedicated FR** Note: When Inband Mng=Dedicated TS, PPP or FR, do not set Line Code=B7, this will cause an error message when a sanity check is performed
Routing Protocol	Routing protocol to be used **None, Proprietary, RIP2** When Inbang Mng=Off, Routing Protocol=None
Inband Mng Rate (Kbps)	**NA, 8, 16, 32, 64**
Idle Code	Hexadecimal code transmitted to fill idle (unused) time slots in frames transmitted through the selected port. To change the code, type the required code in the edit box **00** – **FF**
Tx Clock Source	Source of the card's transmit clock **Loop Timing** - Recovered receive clock is the transmit clock **Local Timing** - Local clock source is the transmit clock **Through Timing** - Receive clock recovered from another port is used as the transmit clock of the selected port
Sync	Reduces the time required for the T1 port to return to normal operation after local loss of synchronization **TR-62411** - Complies with AT&T TR-62411 (after 10 seconds) **Fast** – After 1 second.
Tx Gain Mask (dB)	**0**, **7.5**, **15**, **22.5**
Line Length (feet)	**0-133**, **134-266**, **267-399**, **400-533**, **534-655**
Rx Gain	**Short Haul**, **Long Haul**
RAI Enabled	**Enabled** (checked), **Disabled** (unchecked)

Table 49. T1 Port Software Configuration Parameters (Cont.)

Parameter	Possible Values / Remarks
	The following fileds are available only if there is a SUB T1 port
CGA	Method used to signal the carrier group alarm (CGA) state to the other end of the selected link **None** - Non-transparent mode. When one of the links is in out-of-service state, the time slots carry the appropriate out-of-service code (data/voice OOS) to the other end of the link **Trans** - When one of the links is in out-of-service state, the time slots carry the appropriate OOS code to the other end of the link. Signaling bits A and B are not forced into the OOS state **Full** - Fully transparent mode. When one of the links is in out-of-service state, the state of the time slots and the state of the signaling bits does not change
OOS Signal	State of the signaling bits when the link is in out-of-service (OOS) state **Forced Idle** - Signaling bits A and B are idle when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also idle **Forced Busy** - Signaling bits A and B are busy when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also busy **Busy Idle** - Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are idle for 2.5 seconds before switching to busy state **Idle Busy** - Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are busy for 2.5 seconds before switching to idle state
OOS (hex)	**00..FF**

MAIN E1, SUB E1 Software Configuration

The MAIN E1 port always exists. SUB E1 is optional.

➤ **To display the software configuration of an E1 port:**

1. Select the required port.
2. From the **Configuration** menu, select **Port Parameters** followed by **Software Configuration...**

Or

3. Click the shortcut key on the toolbar

.

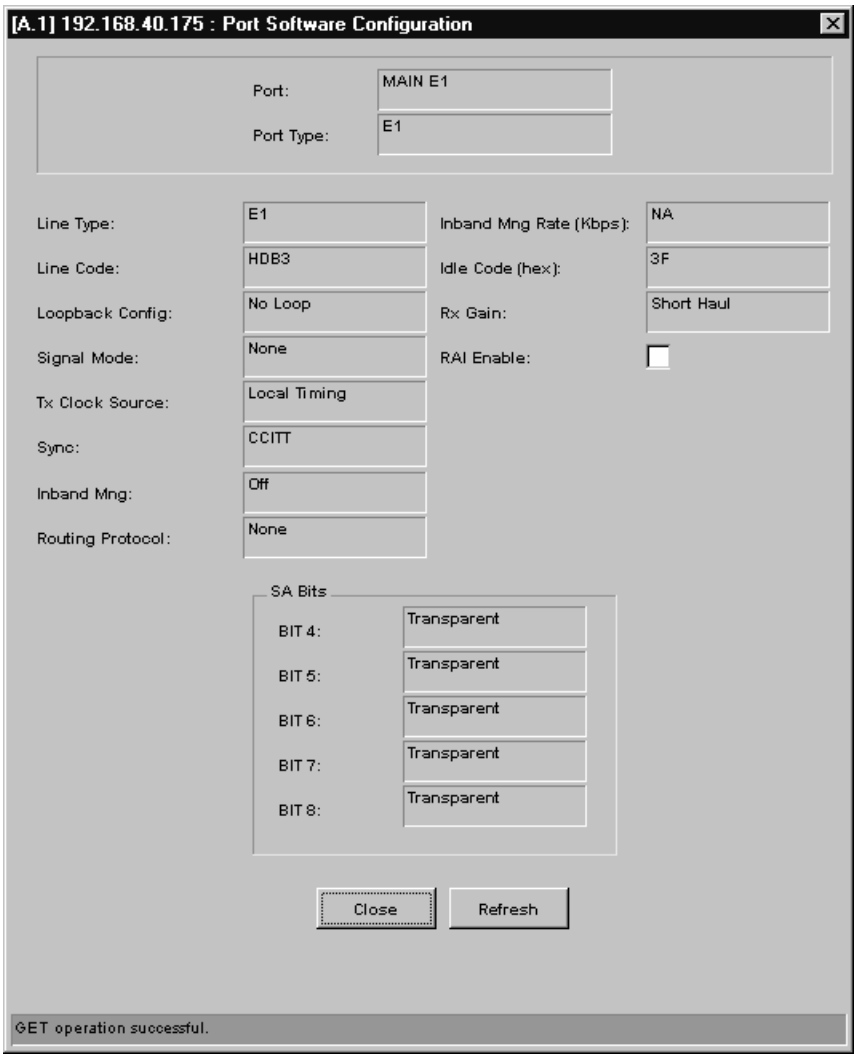


Figure 59. MAIN E1 Port Software Configuration

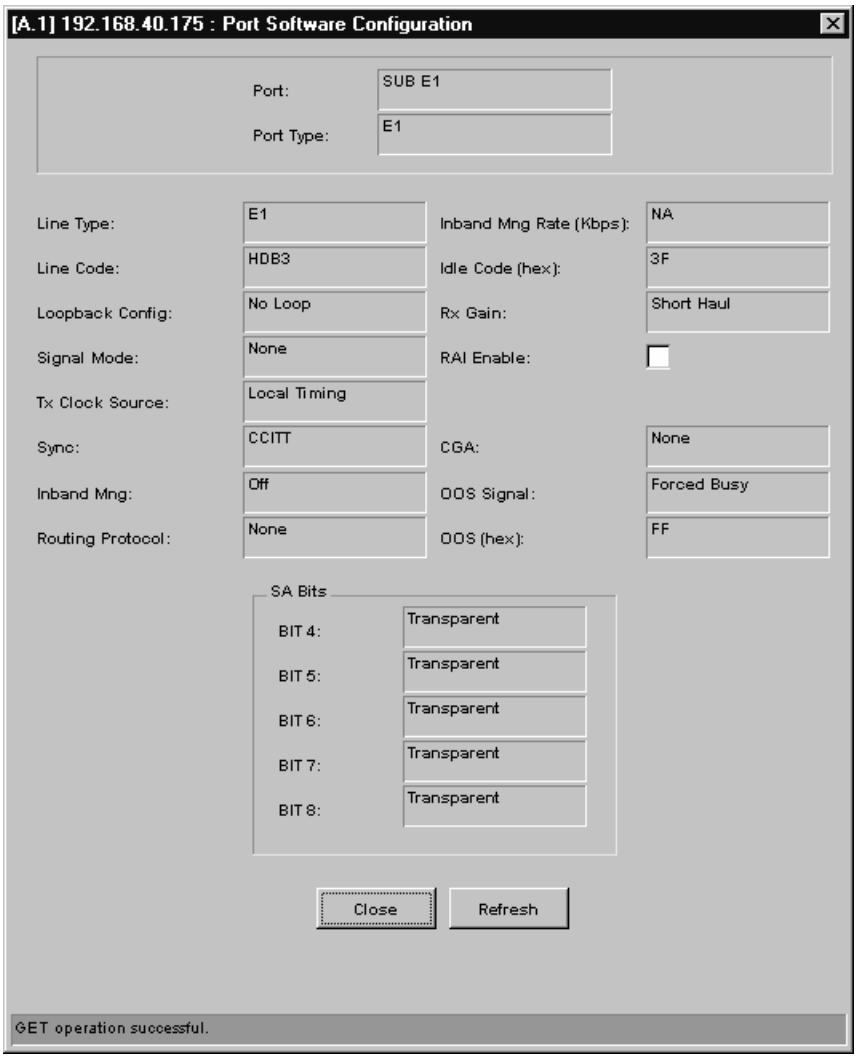


Figure 60. SUB E1 Port Software Configuration

Table 50. E1 Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Line Type	Type of E1 line implementing the selected circuit. The type of circuit affects the number of frames that the circuit can carry. **E1** (CCITT Rec. G.704 - Table 4a) **E1-CRC** (CCITT Rec. G.704 - Table 4b) **E1-MF** (CCITT Rec. G.704 - Table 4a, with TS16 multiframing enabled) **E1-CRC-MF (**CCITT Rec. G.704 - Table 4b, with TS16 multiframing enabled) **Unframed** (for use when the data being transmitted is unframed)
Line Code	Line coding method used for zero suppression **HDB3**
Loopback Config	Loopback configuration of the selected port **No Loop** - Not in loopback state **Payload Loop** – Received signal at this port is looped through the DXC. The signal is typically looped back for retransmission after passing through the agent's framing function **Line Loop** – Received signal at this port does not go through the agent (minimum penetration) but is looped back out **Other Loop** - Any loopback on the selected port that is undefined by the port's configuration
Signal Mode	Type of signaling transfer mode used by the selected card **None, Bit Oriented**
Tx Clock Source	Source of the card's transmit clock **Loop Timing** - Recovered receive clock is the transmit clock **Local Timing** - Local clock source is the transmit clock **Through Timing** - Receive clock recovered from another port is used as the transmit clock of the selected port
Sync	Reduces the time required for the E1 port to return to normal operation after local loss of synchronization **TR-62411** - Complies with AT&T TR-62411 (after 10 seconds) **CCITT** - Complies with CCITT Rec. G.732 **Fast** - after 1 second
Inband Mng	Identifier of the inband management of the selected link **Off**, **FDL or TSO, Dedicated TS, Dedicated PPP** and **Dedicated FR**
Routing Protocol	Routing protocol to be used **None, Proprietary, RIP2**
Inband Mng Rate (Kbps)	Rate of Inband Mng. NA when Inband Mng is Off/FDL or TSO **NA, 8, 16, 32, 64**

Table 50. E1 Port Software Configuration Parameters (Cont.)

Parameter	Possible Values / Remarks
SA Bits	
Bit 4 Bit 5 Bit 6 Bit 7 Bit 8	This parameter enables the user to use the TSO Sa Bits 4 to 8 by 3 octets. **Zero, Zero, <u>One</u>, Management, Transparent** Each Sa bit is represented by a nibble where: 0000=Zero 0001=One 0010=Management 0011=Transparent
Idle Code	Hexadecimal code transmitted to fill idle (unused) time slots in frames transmitted through the selected port **00 – FF**
RX Gain	**<u>Short Haul</u>, Long Haul**
RAI Enabled	**Enabled** (checked), **<u>Diabled</u>** (unchecked)
	The following fileds are available only if there is a SUB E1 port
CGA	Method used to signal the carrier group alarm (CGA) state to the other end of the selected link **None** - Non-transparent mode. When one of the links is in out-of-service state, the time slots carry the appropriate out-of-service code (data/voice OOS) to the other end of the link **Trans** - When one of the links is in out-of-service state, the time slots carry the appropriate OOS code to the other end of the link. Signaling bits A and B are not forced into the OOS state **Full** - Fully transparent mode. When one of the links is in out-of-service state, the state of the time slots and the state of the signaling bits does not change
OOS Signal	State of the signaling bits when the link is in out-of-service (OOS) state **Forced Idle** - Signaling bits A and B are idle when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also idle **Forced Busy** - Signaling bits A and B are busy when the link is in out-of-service state. In addition, if the line type is ESF, signaling bits C and D are also busy **Busy Idle** - Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are idle for 2.5 seconds before switching to busy state **Idle Busy** - Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. In addition, if the line type is ESF, signaling bits C and D are busy for 2.5 seconds before switching to idle state
OOS (hex)	**00..FF**

CH, HS–Q, HS–Q/N Software Configuration

Note *CH software configuration exists for FCD–M HS ports and for HS ports of HS-Q and HS-Q/N cards. For FCD–E1/T1/M there is only one HS port.*

➤ **To display the software configuration of a HS port:**

1. Select the required port.
2. From the **Configuration** menu, select **Port Parameters** followed by **Software Configuration...**

Or

3. Click the shortcut key on the toolbar

.

The Port Software Configuration dialog box appears. If the selected port is an IR-ETH port, then the dialog box contains two tabs: HS Specifications and ETH Specifications. Click on the desired tab to view the port parameters.

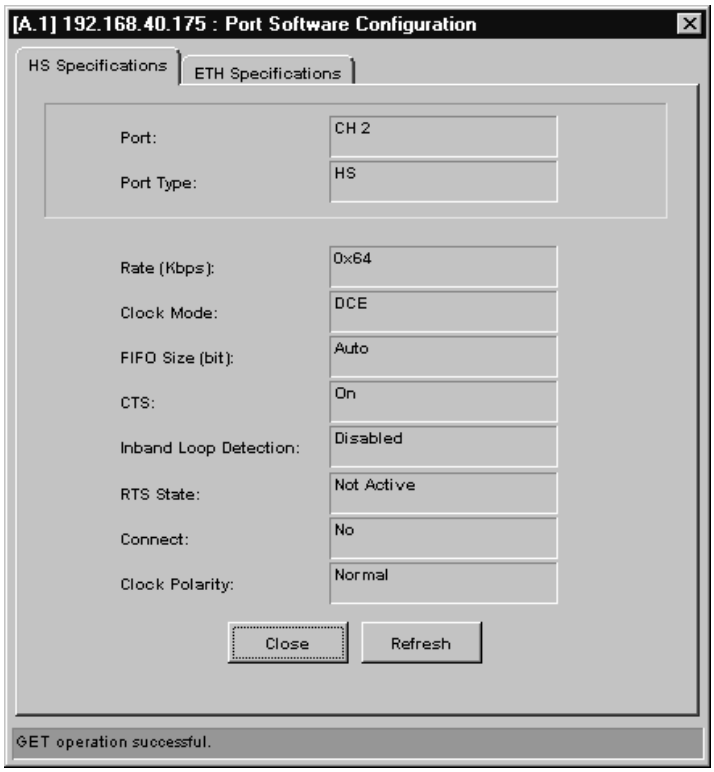


Figure 61. HS Specifications Tab

Table 51. HS Specifications Tab Parameters

Parameter	Possible Values / Remarks
Connect	This field is read-only. Yes indicates that there are connected time slots **Yes, No**
Rate (Kbps)	**0, nx56, nx64**
Clock Mode	The clock mode **DCE, EXT-DCE, DTE**
FIFO Size (bit)	The available options depend on the Clock Mode **Auto**, **16**, **30**, **52, 72**
CTS	**On, =RTS**
Inband Loop Detection	**Disabled, Enabled**
RTS State	**Not Active, Active**
Clock Polarity	Indicates the clock polarity. Only for HS ports **Normal, Invert** **NA:** for HS-Q, HS-Q/N ports
Control Signal	**Local, End to End, NA** Only available for HS CH port

Note ***When setting the channel Control Signal value for E1-MF or E1-CRC/MF line types***:

- *If you have a V-35 interface, set the Control Signal to NA.*
- *If you have an interface other than V.35, set the Control Signal to Local or End-to-end.*

If the Control Signal values of the interfaces are set incorrectly, these incorrect values will appear only in the Edit Configuration Mode. However, RADview automatically inputs the correct values in the Agent Configuration Mode.

When setting the channel Control Signal to values other than E1-MF or E1-CRC/MF line types:

- *Set the Control Signal to NA.*

If the Control Signal values of the interfaces are set incorrectly, these incorrect values will appear only in the Edit Configuration Mode. However, RADview automatically inputs the correct values in the Agent Configuration Mode.

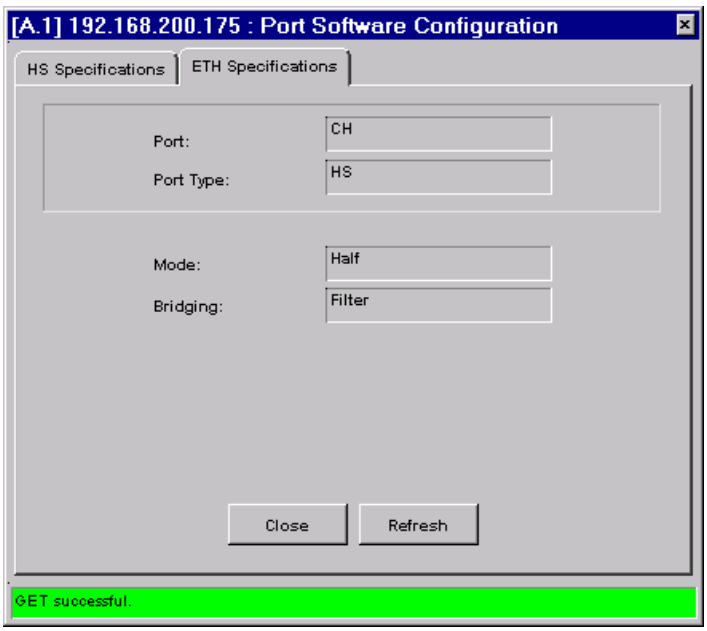


Figure 62. ETH Specifications Tab

Table 52. ETH Specifications Tab Parameters

Parameter	Possible Values / Remarks
Mode	**Half Duplex, Full Duplex**
Bridging	**Filtered, Transparent**

VC-6 Software Configuration

➤ **To display the software configuration of a VC-6 port:**

1. Zoom in on the card.
2. In the card view, select the required port.
3. From the **Configuration** menu, select **Port Parameters** followed by **Software Configuration...**

Or

4. Click the shortcut key on the toolbar

The Port Software Configuration dialog box appears.

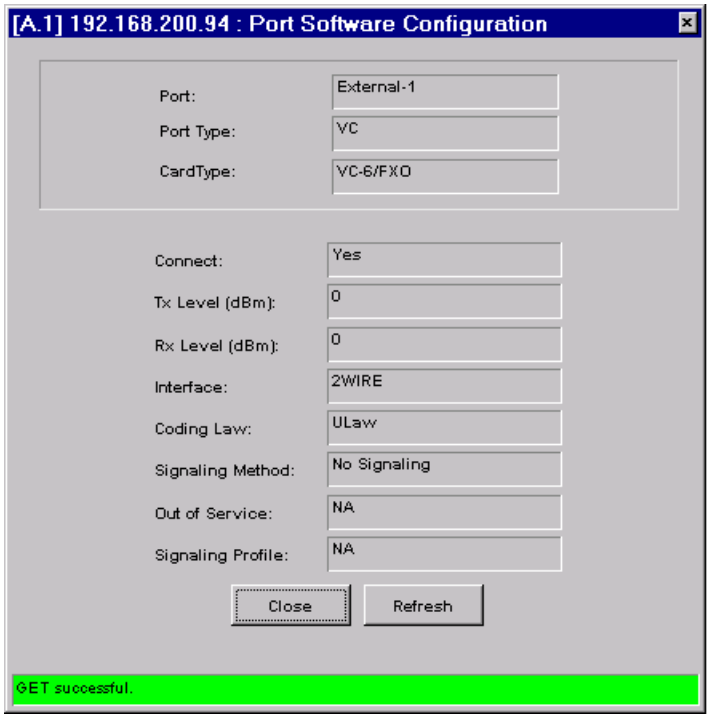


Figure 63. VC 6 Port Software Configuration

Table 53. VC-6 Software Configuration Parameters

Parameter	Possible Values / Remarks
Connect	Indicates whether there are connected time slots **Yes, No**
Tx Level (dBm)	The transmit level **VC-6/E&M: -17 < Tx < 8** **VC-6/FXO: -18 < Tx < 7** **VC-6/FXS: -13 < Tx < 8**
Rx Level (dBm)	The receive level **VC-6/E&M: -23 < Tx < 2** **VC-6/FXO: -23 < Tx < 2** **VC-6/FXS: -17 < Tx < 2**
Interface	For E&M and MVTC-2 cards: **2 WIRE**, **4 WIRE** For all other cards: **2 WIRE**
Coding Law	Type of coding law used For FCD–M/E1: **Alaw, Ulaw** For FCD–M/T1: **Alaw, Ulaw**.
Signaling Method	**No Signalling**, **RoddedBitMultiFrame**, **RobbedBitFrame**, **CH Associated E1** Note: This parameter's value is the same for all the other ports of this card
Out of Service	State of the signaling bits when the link is in out-of-service (OOS) state. **Forced Idle** – Signaling bits A and B are idle when the link is in out-of-service state. **Forced Busy** – Signaling bits A and B are busy when the link is in out-of-service state. **Busy Idle** – Signaling bits A and B are busy for 2.5 seconds, then become idle until the out-of-service state ends. **Idle Busy** – Signaling bits A and B are idle for 2.5 seconds, then become busy until the out-of-service state ends. **NA** – Not available when Signalng Method=No Signaling. Note: This parameter's value is the same for all the other ports of this card
Signaling Profile	For E&M cards: **NA, 1** For FXO & FXS cards:**NA, 1, 2** **NA** when Signaling Method=No Signaling. Note: This parameter's value is the same for all the other ports of this card

HS-U/I and HS-S Software Configuration

HS-U/I and HS-S cards each have four external ports and thirteen internal ports.

➤ **To edit HS-U/I or HS-S Software Configuration external port parameters:**

1. Select an external port of the HS-U/I or HS-S card.
2. From the **Configuration** menu, select **Port Info**, followed by **Software Configuration…**

Or

3. Click the shortcut key on the toolbar

.

The Software Configuration dialog box for external ports of the HS-U/I or HS-S card appears.

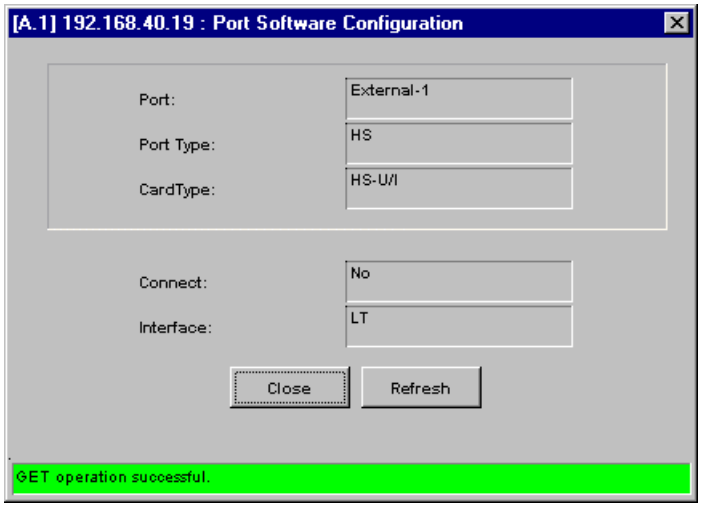


Figure 64. HS-U/I and HS-S External Port Software Configuration Dialog Box

Table 54. HS-U/I and HS-S External Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Slot	Slot in which the selected card is installed **IO-1 to IO-12**
Port	Number of the selected port **external-1 to external-4**
Card Type	Type of card installed in the selected slot **HS-U/I, HS-S**
Connect	**No, Yes**
Interface	For HS–U/I: **LT** = line termination, **NT** = network termination For HS–S: **TE** = terminal equipment, **NT** = network termination

Table 54. HS-U/I and HS-S External Port Software Configuration Parameters (Cont.)

Parameter	Possible Values / Remarks
Link To Slot	The slot of the MTML card to which the **IO** port is mapped **IO-1 to IO-12**
Link To Port	The port in the ML card to which the **IO** port is mapped **external-1 to external-4**

➤ **To edit HS-U/I and HS-S Software Configuration parameters for internal ports:**

1. Select an internal port of the HS-U/I or HS-S card.
2. From the **Configuration** menu, select **Port Info**, followed by **Software Configuration…**

Or

3. Click the shortcut key on the toolbar

The Software Configuration dialog box for internal ports of the HS-U/I or HS-S card appears.

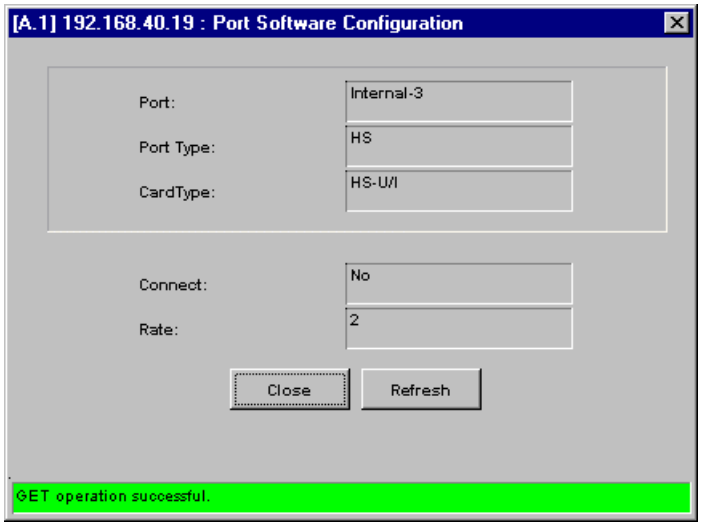


Figure 65. HS-U/I and HS-S Internal Port Software Configuration Dialog Box

Table 55. HS-U/I and HS-S Internal Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Slot	Slot in which the selected card is installed **IO-1 to IO-12**
Port	Number of the selected port **internal-1 to internal-13**
Card Type	Type of card installed in the selected port **HS-U/I, HS-S**
Connect	**No, Yes**

Table 55. HS-U/I and HS-S Internal Port Software Configuration Parameters (Cont.)

Parameter	Possible Values / Remarks
Rate (bits)	For internal ports 1, 2, 4, 5, 7, 8, 10, 11: **2**, **4, 8** For internal ports 3, 6, 9, 12: **2**, Concentrated

HS-R Software Configuration

HS-R cards have four external ports.

➤ **To edit HS-R Software Configuration parameters:**

1. Select an external port of the HS-R card.
2. From the **Configuration** menu, select **Port Info**, followed by **Software Configuration…**

Or

3. Click the shortcut key on the toolbar

The Software Configuration dialog box appears.

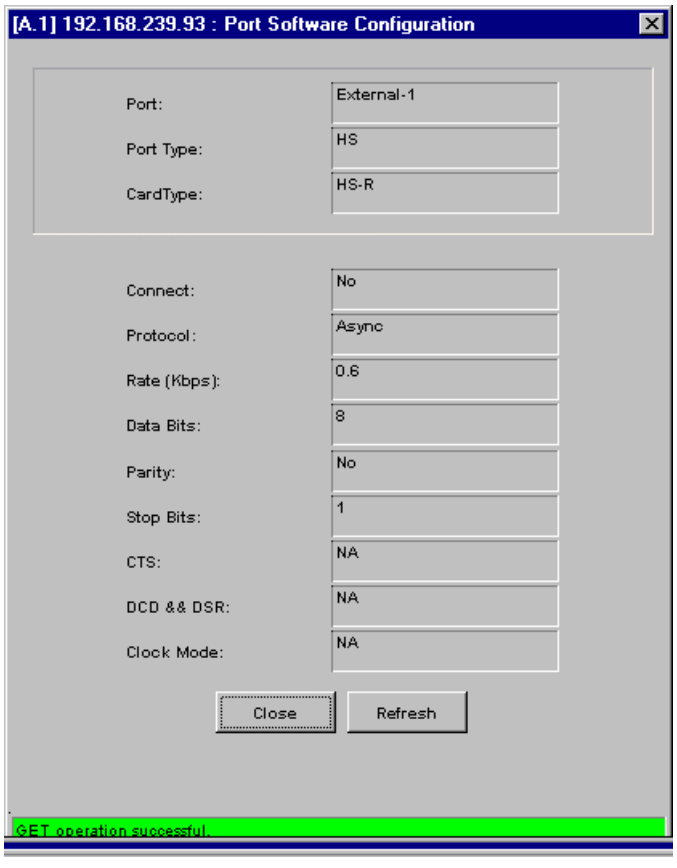


Figure 66. HS-R Software Configuration Dialog Box

Table 56. HS-R Software Configuration Parameters

Parameter	Possible Values / Remarks
Slot	Slot in which the selected card is installed **IO-1 to IO-12**
Port	Number of the selected port **external-1 to external-4**
Card Type	Type of card installed in the selected slot **HS-R**
Connect	Indicates whether the port should be considered in any of the Megaplex algorithms **No, Yes**
Protocol	Applied protocol **Sync, Async**
Rate (Kbps)	Port speed When Protocol=Async: **0.6, 1.2, 2.4, 4.8, 9.6, 19.2, 38.4.** When Protocol=Sync: **0.6, 1.2, 2.4, 4.8, 9.6, 19.2, 38.4, 48.0, 56.0, 64.0.**
Data Bits	**5, 6, 7, 8** **NA** when Protocol=Sync
Parity	**No, Yes** **NA** when Protocol=Sync
Stop Bits	**1, 2** **NA** when Protocol=Sync
CTS	**On, RTS** **NA** when Protocol=Sync
DCD & DSR	**Local, End to End**
Clock Mode	**DCE, Ext-DCE** **NA** when Protocol=Sync

HS-U/1 Software Configuration

HS-U/1 cards have four external ports and four internal ports.

➤ **To edit HS-U/1 Software Configuration external port parameters:**

1. Select an external port of the HS-U/1 card.
2. From the **Configuration** menu, select **Port Info**, followed by **Software Configuration...**.

   The Software Configuration dialog box for external ports of the HS-U/1 card appears.

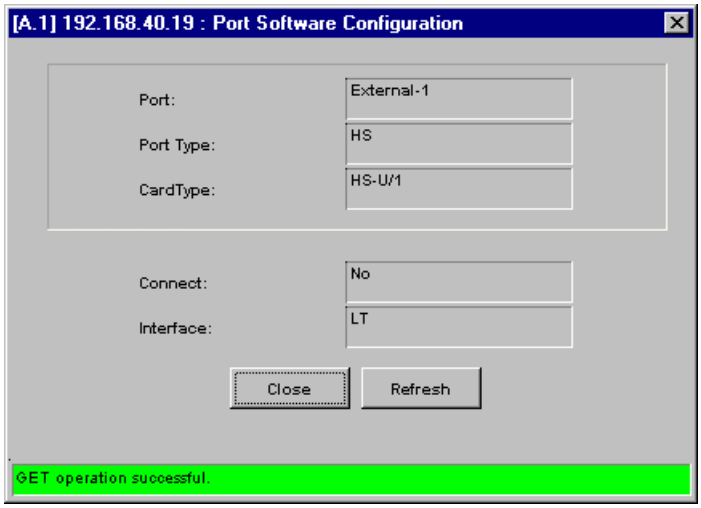


Figure 67. HS-U/1 External Port Software Configuration Dialog Box

Table 57. HS-U/1 External Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Slot	Slot in which the selected card is installed **IO-1 to IO-12**
Port	Number of the selected port **external-1 to external-4**
Card Type	Type of card installed in the selected slot **HS-U/1**
Connect	**No**, **Yes**
Interface	**LT** = line termination

➤ **To edit HS-U/1 external port Far Modem parameters:**

1. Select an external port of the HS-U/1 card.
2. From the **Configuration** menu, select **Port Info**, followed by **Far Modem Parameters...**.

   The Far Modem Parameters dialog box for the HS-U/1 card appears.

Table 58. HS-U/1 External Port Far Modem Parameters

Parameter	Possible Values / Remarks
Port	Number of the selected port **external-1 to external-4**
Card Type	Type of card installed in the selected slot **HS-U/1**
Protocol	**Sync, Async**
Remote Modem	**ASMi–31, ASMi–31/2,**
Rate Adaptation	**Proprietary, V.110** **NA** when Remote Modem=ASMi–31
Rate (Kbps)	Port speed **0.6, 1.2, 2.4, 4.8, 9.6, 16.0, 19.2, 32.0, 38.4, 48.0, 57.6, 64.0, 115.2, 128.0**
Data Bits	Number of data bits in the word format transmitted through the selected port **5, 6, 7, 8**
Parity	Parity mode used by the selected port **No**, **Odd, Even**.
Stop Bits	Number of stop bits **1, 2**
LLB Enable	Controls the activation of a local loopback **Enabled** (checked) Loopback activation enabled **Disabled** (unchecked) Loopback activation disabled
RLB Enable	Controls the activation of a remote loopback **Enabled** (checked) Loopback activation enabled **Disabled** (unchecked) Loopback activation disabled **NA** when Remote Modem=ASMi–31

➤ **To edit HS-U/1 Software Configuration internal port parameters:**

1. Select an internal port of the HS-U/1 card.
2. From the **Configuration** menu, select **Port Info**, followed by **Software Configuration...**.

   The Software Configuration dialog box for internal ports of the HS-U/1 card appears.

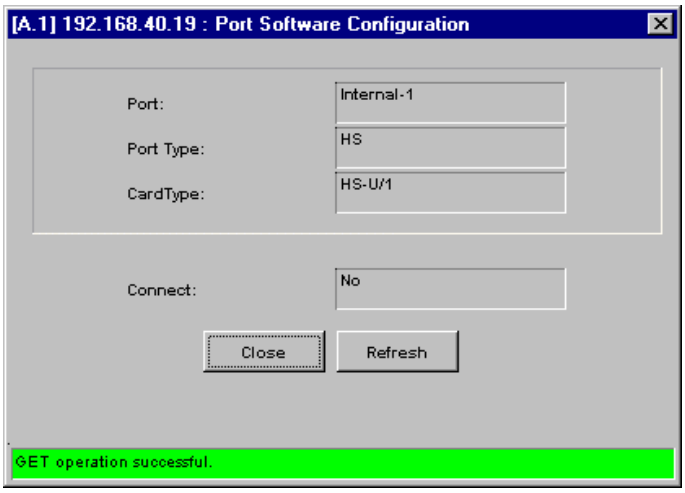


Figure 68. HS-U/1 Internal Port Software Configuration Dialog Box

Table 59. HS-U/1 Internal Port Software Configuration Parameters

Parameter	Possible Values / Remarks
Slot	Slot in which the selected card is installed **IO-1 to IO-12**
Port	Number of the selected port **internal-1** to **internal-4**
Card Type	Type of card installed in the selected slot **HS-U/1**
Connect	**No, Yes**

Displaying BERT Parameters (CH and HS ports)

Note *BERT parameters are available only for HS channel and HS–Q/N ports.*

➤ **To view or edit the BERT Parameters:**

1. Select the required port.
2. From the **Configuration** menu, select **Port Parameters** followed by **BERT Parameters…**

The BERT Parameters dialog box appears.

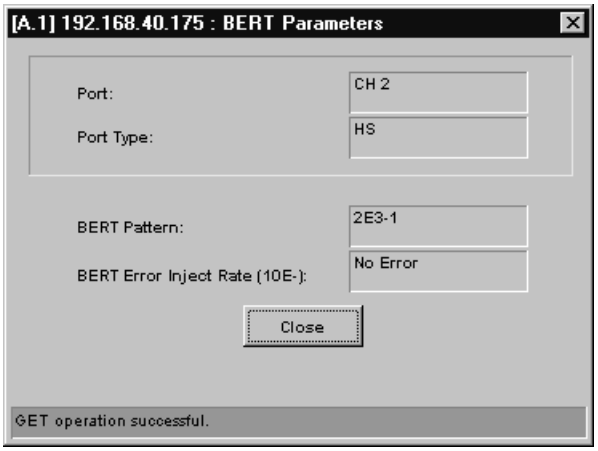


Figure 69. BERT Parameters

Table 60. BERT Parameters

Parameter	Possible Values / Remarks
Port	The selected port **CH, External–1..External–4**
Port Type	Type of the selected port **HS**
BERT Pattern	The BERT pattern For HS CH: **2E3-1, 2E4-1, 2E5-1, 2E6-1, 2E7-1, 511, 2E10-1, 2047, 2E15-1, 2E17-1, 2E18-1, 2E20-1, QRSS, 2E21-1, 2E22-1, 2E23-1, 2E25-1, 2E28-1, 2E29-1, 2E31-1, 2E32-1** For HS card ports: **511, 2047, 2E15-1, 2E20-1, QRSS, 2E23-1, RJ011, Alternate, Mark, Space**
BERT Error Inject Rate (10E-)	The rate of BERT injection For HS CH: **No Error, 1, 2, 3, 4, 5, 6, 7** For HS card ports: **Single**

16. Displaying Port Faults

The Port View **Fault** menu contains options for masking and displaying active alarm and failures in the selected port.

Listing Port Active Alarms

The **List** command displays a list of active alarms for the selected port.

➤ **To view all active alarms for the selected port:**

- From the **Fault** menu, select **Alarms** followed by **List...**

  The Port Active Alarm List appears listing active port alarms. If the list is long, you can click the scroll bar or scroll arrows to display more entries.

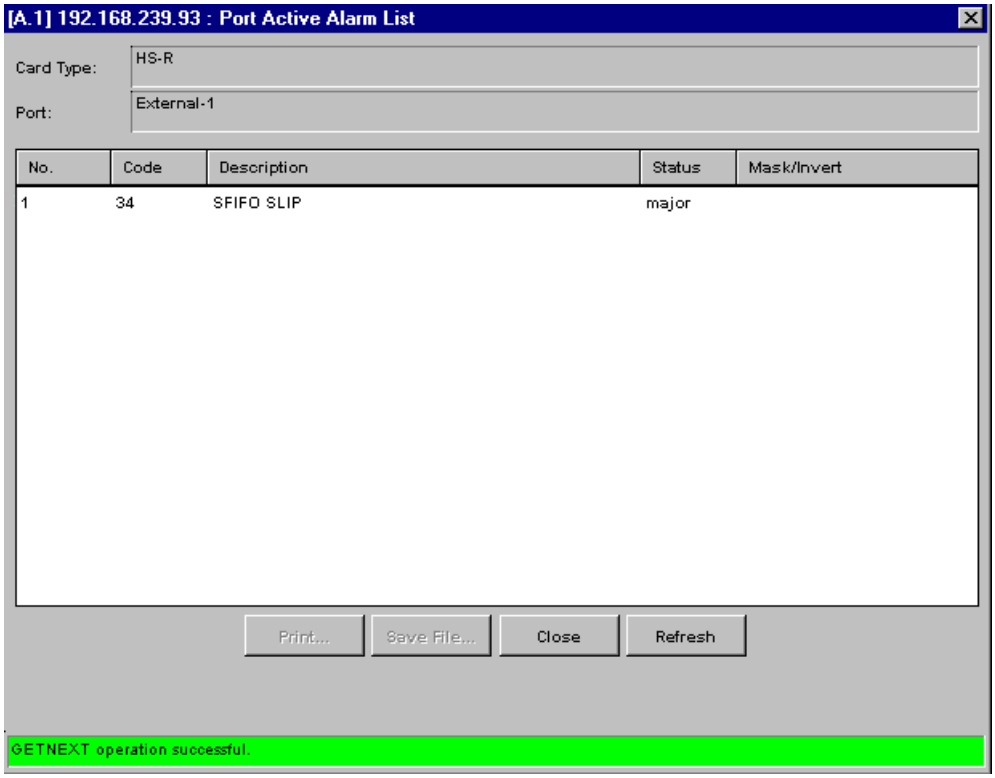


Figure 70. Port Active Alarm List

Table 61. Port Active Alarm List

Parameter	Possible Values / Remarks
No.	Index number of the alarm
Code	Code which indicates a certain alarm description
Description	Description of the alarm
Status	State of the alarm **Minor, Major**

Table 61. Port Active Alarm List (Cont.)

Parameter	Possible Values / Remarks
Mask/Invert	Indicates whether the alarm has been masked or inverted **Invert, Mask, None**

Clearing Port Alarms

You can clear all active port alarms from the system database.

➤ **To clear active port level alarms:**

- From the **Fault** menu, select **Alarms** followed by **Clear**.

  The system does not request confirmation for this operation.

Displaying Port Failures

The **Line Status** command allows you to view failures, if any, in the selected port.

➤ **To see a list of port failures:**

- From the **Fault** menu, select **Line Status**…

  The Line Status dialog box appears.

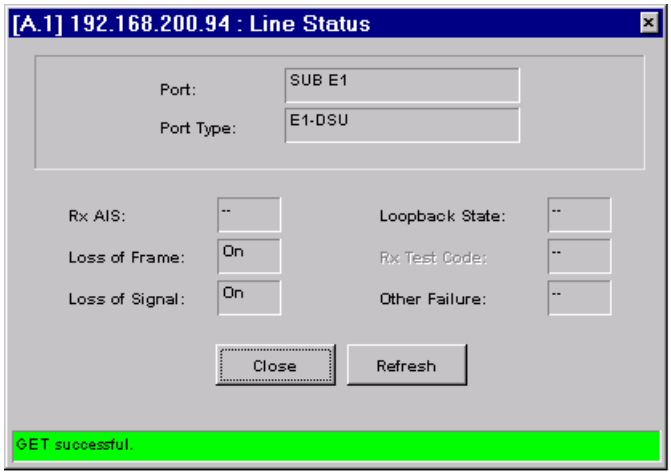


Figure 71. Line Status

The dialog box lists all possible detectable port failures and the status of each failure. The possible failures depend on the type of port. **On** indictes that a failure exists. **—** indicates that there is no failure.

Diagnostic Tests

The FCD supports local and remote loopback tests. For T1 interfaces, network line and payload loopback are also supported. For HS cards, BERT testing is supported. For detailed descriptions of these tests, see the FCD Installation and Operation Manual.

RADview-HPOV's Diagnostics function allows you to do the following:

- View the status of diagnostic tests in the selected port
- Stop a currently running diagnostic test

- Start a diagnostic test.

➤ **To enter the diagnostic test function:**

1. In the Agent view, select a port.
2. From the **Diagnostics** menu, select **Test...**.

   The Port Tests dialog box appears. A sample Port Tests dialog box is shown for an HS port.

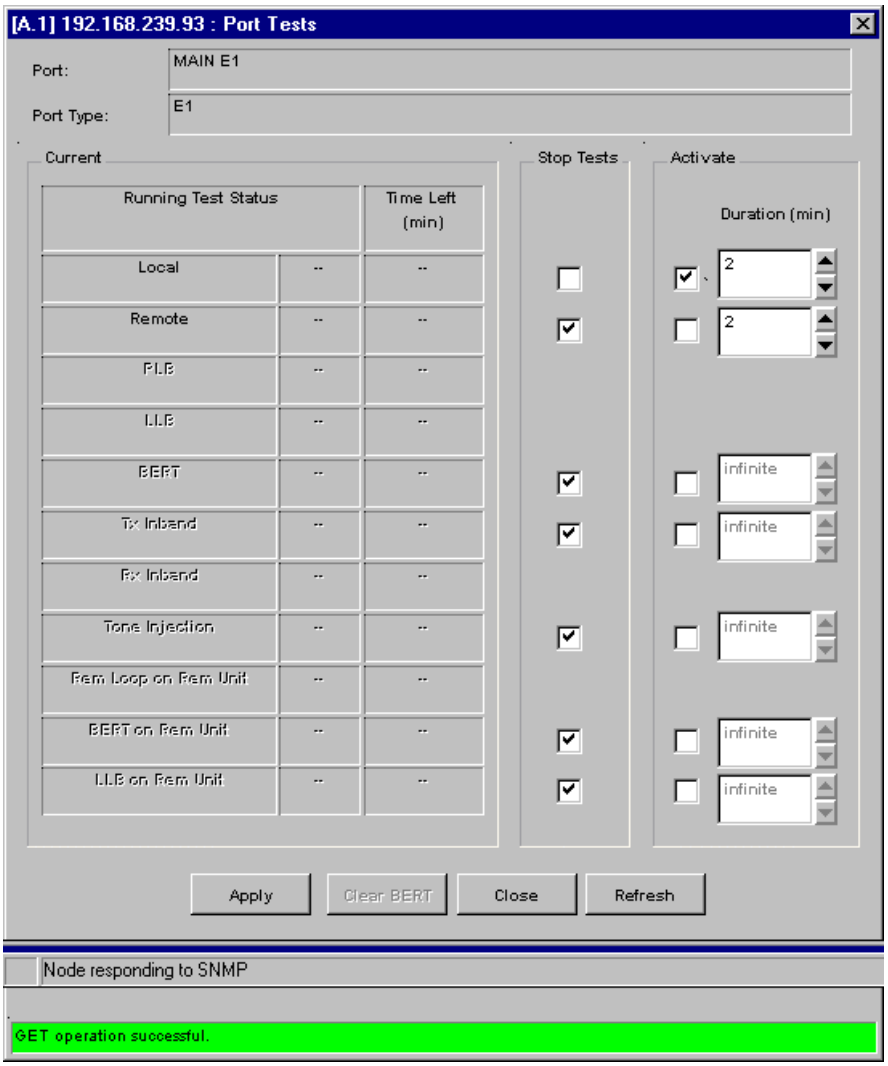


Figure 72. Port Tests

The Port Tests dialog box contains card and port identification at the top and two main functional sections, **Current** and **Activate**.

Table 62. Port Tests

Parameter	Possible Values / Remarks
Port	Selected port **MAIN E1/T1, SUB E1/T1, CH, or External-1..External-2**
Card Type	Type of Card **HS–Q, HS–Q/N, HS–U/I, HS–R, HS–S, HS–U/1, VC–6/E&M, VC–6/FXO, VC–6/FXS**
Port Type	Type of port **E1, E1-F, T1, T1-F, HS**

The **Current** section shows the current testing status at the selected port. In addition, you can stop a currently running test.

- The **Running Tests** group lists the possible tests for the selected port and the status of each test. The status can be **Active** or **—**(not active).
  - For HS ports, BERT testing status is also included. BERT Counter shows the number of bit errors detected during the BERT test.
  - The Stop Tests group allows you to stop active tests. To stop a test, select its checkbox (x) and click Apply.

The **Activate** section allows you to activate a diagnostic test.

➤ **To activate/stop tests:**

- Select appropriate test(s) checkbox and click **Apply**.

  The agent stops and/or starts the selected tests accordingly.

Note *Local and Remote tests cannot be activated together.*
LLB and PLB tests are system-initiated and cannot be activated or stopped by the user.

➤ **To reset the BERT counter to zero (for HS ports):**

- Click Clear BERT.

  The BERT counter restarts at zero, even if the BERT test continues.

BERT Counters

Note *BERT parameters are available for HS ports only.*

➤ **To View the BERT counters:**

1. Select the required port.

Note *In order to see the BERT counters, BERT test must running. Start (activate) BERT testing from the Port Test Dialog Box.*

2. From the **Diagnostics** menu, select **BERT Counters**.

   The BERT Counters Dialog Box appears.

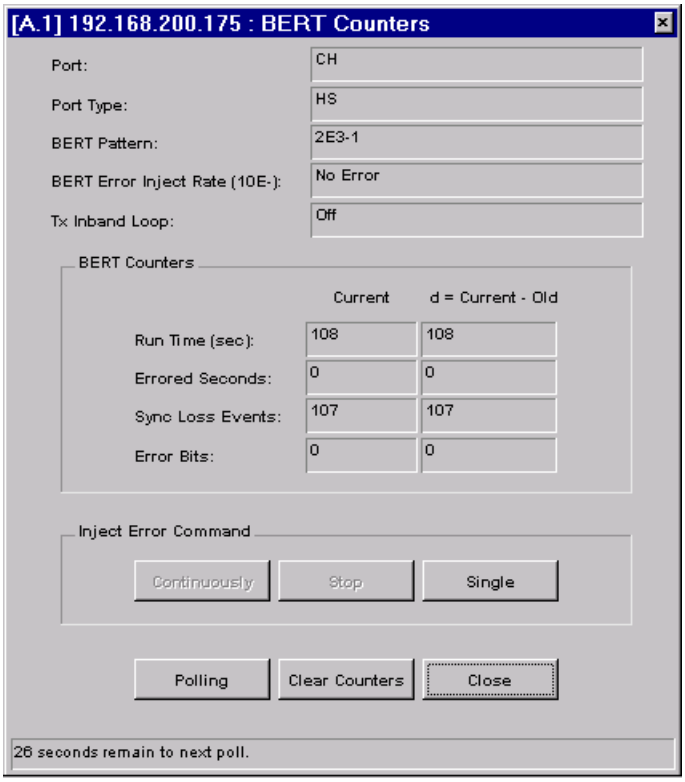


Figure 73. BERT Counters

Table 63. BERT Counters Parameters

Parameter	Possible Values / Remarks
Port	The selected port **CH**
Port Type	Type of the selected port **HS**
BERT Pattern	BERT pattern For HS CH: **2E3-1, 2E4-1, 2E5-1, 2E6-1, 2E7-1, 511, 2E10-1, 2047, 2E15-1, 2E17-1, 2E18-1, 2E20-1, QRSS, 2E21-1, 2E22-1, 2E23-1, 2E25-1, 2E28-1, 2E29-1, 2E31-1, 2E32-1** For HS–Q/N: **511, 2047, 2E15-1, 2E20-1, QRSS, 2E23-1, RJO11, Alternate, Mark, Space**
BERT Error Inject Rate (10E-)	Rate of BERT injection **No Error, 1, 2, 3, 4, 5, 6** and **7**

➤ **To Inject Errors while testing:**

- Click **Continuously** or **Single** (only one error is injected)**. Stop** causes the injection of error to cease.

➤ **To clear the BERT Counters:**

- Click Clear Counters.

  The BERT Counters is reset to zero.

➤ **To set the BERT Polling Interval:**

1. Click Polling...

   The BERT Polling Interval dialog box appears.

2. Set the polling interval by choosing a value from the drop-down list box. And click **Set**.

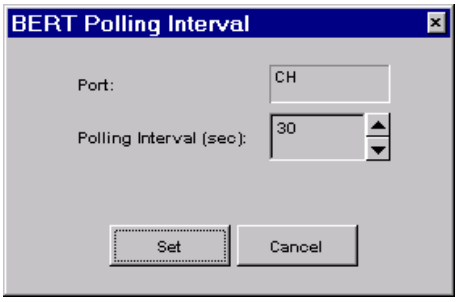


Figure 74. BERT Polling Interval

17. Port Statistics

You can view statistical information for T1 and E1 ports. The displayed statistics vary according to the type of the selected port.

Setting the Polling Interval

RADview updates displayed statistical data by polling the Megaplex at set intervals. The Polling Interval command allows you to set the number of seconds between polls.

➤ **To set the polling interval:**

- From the **Statistics** menu, select **Port Performance** followed by **Polling Interval…**

  The Polling Interval dialog box appears.

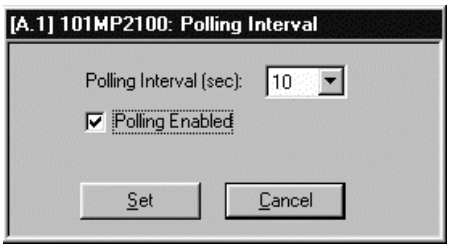


Figure 75. Polling Interval Dialog Box

Table 64. Polling Interval Parameters

Parameter	Possible Values / Remarks
Polling Interval	Number of seconds between polls Applicable for FDL messages and Current Data dialog boxes and graphs
Polling Enable	√ enables polling when a Statistics dialog box is open After each poll, RADview automatically updates the information in the dialog box. If polling is disabled, RADview does not automatically update a Statistics dialog box. Note: Polling is always enabled when a Statistics graph is open.

T1 Line Type D4, E1 Line Types E1 and E1-MF Statistics

➤ **To view port status statistics for these card types:**

1. Select the desired port.
2. From the **Statistics** menu, select **Port Statistics...**

   The Port Statistics dialog box appears:

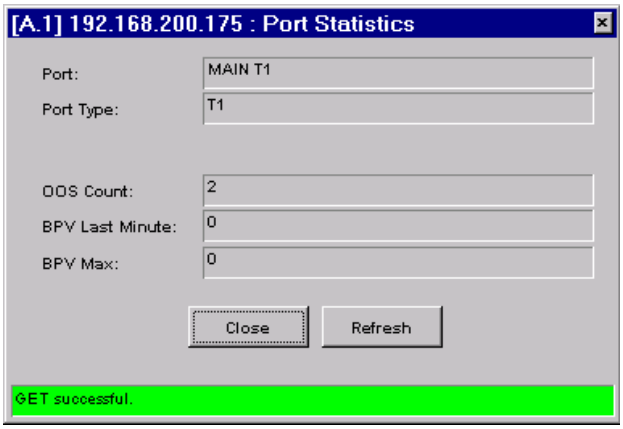


Figure 76. Port Statistics

Table 65. Port Statistics

Parameter	Possible Values / Remarks
Port	Selected port **MAIN E1/T1**, **SUB E1/T1**
Port Type	Type of port **T1**, **E1**
OOS Count	Number of detected frame alignment loss events since the last time the counter was cleared
BPV Last Minute	Number of BPV (bipolar variation) events detected in the last minute
BPV Max	Highest total of BPV events detected during any one-minute interval since the last time the counter was cleared

Viewing Port Performance Data

➤ **To view port performance data:**

1. In the Agent View, select the desired port.
2. From the **Statistics** menu, select **Port Performance** followed by **Current Table…**

   The Current Data dialog box appears:

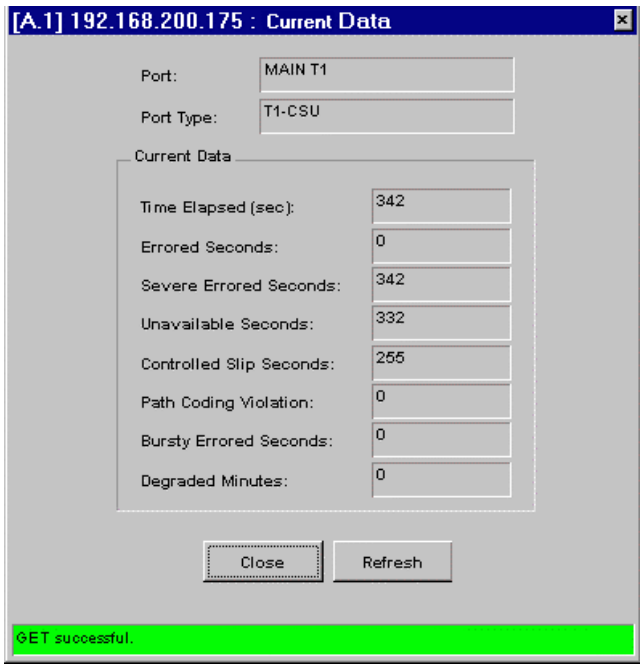


Figure 77. Curent Data Dialog Box

Table 66. Current Data Parameters

Parameter	Possible Values / Remarks
Port	Selected port **MAIN–E1/T1, SUB–E1/T1**
Port Type	Type of port **T1**, **T1-F**, **E1, E1-F**
Current Data	Group of data fields which describe the amount of time that error(s) exist(s) in the current measurement interval. Each interval is 15 minutes
Time Elapsed	Number of seconds since the beginning of the current interval **0..899**
Errored Seconds	Number of seconds in the current interval in which an event or alarm occurred
Severe Errored Seconds	Number of seconds in the current interval in which at least 320 CRC events or one OOF event occurred
Unavailable Seconds	Number of seconds in the current interval in which a failed signal state exists. A failed signal state occurs after 10 consecutive severe errored seconds. This state is cleared only after FCD processes 10 consecutive seconds of data without an SES

Table 66. Current Data Parameters (Cont.)

Parameter	Possible Values / Remarks
Controlled Slip Seconds	Number of seconds in the current interval in which at least one controlled SLIP event occurred
Path Coding Violation	Number of seconds in the current interval in which at least one path coding violation occurred
Bursty Errored Seconds	Number of seconds in the current interval in which 2 - 319 CRC events occurred
Degraded Minutes	Number of minutes in the current interval in which the bit error rate (BER) exceeded $1x10^{-6}$

➤ **To view data from all intervals in the the previous 24 hours:**

- From the **Statistics** menu, select **Port Performance** followed by **Interval Table…**

The Interval Data dialog box appears.

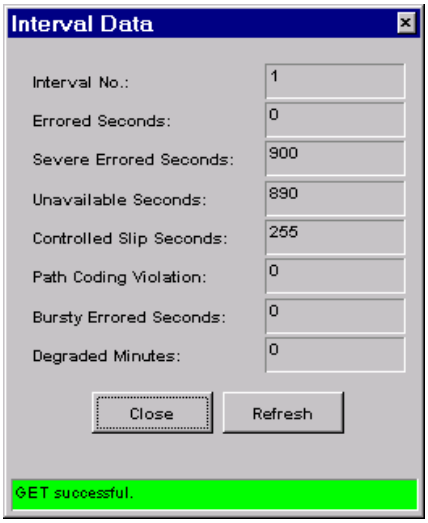


Figure 78. Interval Data Dialog Box

➤ **To view port performance data in a graph:**

1. In the Agent View, select the desired port.
2. From the **Statistics** menu, select **Port Performance** followed by **Current Graph…**

   The Current Graph dialog box appears:

➤ **To view data from all intervals in the the previous 24 hours in a graph:**

- From the **Statistics** menu, select **Port Performance** followed by **Interval Graph…**

The Interval Graph dialog box appears.

Displaying FDL Rx Messages

You can view active FDL (Facility Data Link) Rx messages which have passed through the T1 ports of **Line Type=ESF**.

➤ **To view FDL Rx messages:**

1. Select a T1 port with **Line Type=ESF**.
2. From the **Statistics** menu, select **FDL Message** and **Rx**.

   The Port FDL Rx Message dialog box appears.

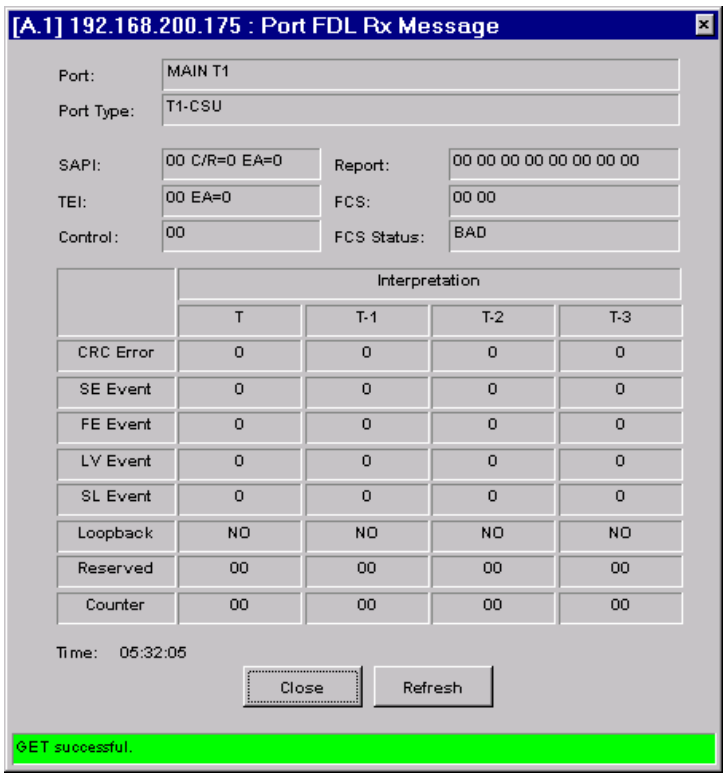

[A.1] 192.168.200.175 : Port FDL Rx Message
Port: MAIN T1
Port Type: T1-CSU
SAPI: 00 C/R=0 EA=0
Report: 00 00 00 00 00 00 00 00
TEI: 00 EA=0
FCS: 00 00
Control: 00
FCS Status: BAD
Interpretation
T T-1 T-2 T-3
CRC Error 0 0 0 0
SE Event 0 0 0 0
FE Event 0 0 0 0
LV Event 0 0 0 0
SL Event 0 0 0 0
Loopback NO NO NO NO
Reserved 00 00 00 00
Counter 00 00 00 00
Time: 05:32:05
Close
Refresh
GET successful.

Figure 80. Port FDL Rx Message

Table 67. Port FDL Rx Message

Parameter	Possible Values / Remarks
Port	Name of the selected port **MAIN T1 and SUB-T1**
Card Type	Type of selected port **T1, T1/F**
SAPI	Service Access Point Identifier
TEI	Terminal Endpoint Identifier
Control	One byte (00 through FF)
Report	Eight bytes that carry the message contents
FCS	Two bytes that carry the Frame Check Sequence of the message
FCS Status	Indicates whether the FCS message is **Good** or **Bad** (message probably contains an error)
Interpretation	The following fields contain the contents of the four latest FDL messages (**T**, **T-1**, **T-2**, **T-3**)
CRC Error	Number of CRC errors, specified in one of the following ranges: **None, 1 - 5, 5 - 10, 10 - 100, 100 - 319, 320 or more**
SE Event	Severely errored framing event: **0, 1 or more**
FE Event	Frame synchronization bit error event: **0, 1 or more**
LV Event	Line code violation event: **0, 1 or more**
SL Event	Controlled SLIP event: **0, 1 or more**
Loopback	Loopback on information bits (payload): **Yes**, **No**
Reserved	Reserved for future use, if needed
Counter	1-second report modulo-4 counter
Time	Time that the message was received at the management terminal: HH:MM:SS, where HH = hours, MM = minutes, SS = seconds.